# RELATIONSHIP BETWEEN STUDENTS' PERFORMANCE IN ENGLISH LANGUAGE AND SELECTED SCIENCE SUBJECTS IN COLLEGES OF EDUCATION IN NIGERIA

**BY**

**OBIANYO, Josephine Ego**
**M.D/EDUC/41856/2012-13**

**DEPARTMENT OF ARTS AND SOCIAL SCIENCE EDUCATION**
**FACULTY OF EDUCATION**
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**DEPARTMENT OF ARTS AND SOCIAL SCIENCE EDUCATION**
**FACULTY OF EDUCATION.**
**AHMADU BELLO UNIVERSITY,**

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**MARCH, 2016**

## DECLARATION

I declare that the work in this dissertation titled "RELATIONSHIP BETWEEN STUDENTS' PERFORMANCE IN ENGLISH LANGUAGE AND SELECTED SCIENCE SUBJECTS IN COLLEGES OF EDUCATION IN NIGERIA" has been carried out by me in the TESL section of the Department of Arts and Social Science Education A.B.U. Zaria. The information derived from the literature has been duly acknowledged in the text and a list of references provided. No part of this dissertation was previously presented for another degree or diploma at this or any other institution.

| | | |
|---|---|---|
| Name of Student | Signature | Date |

## CERTIFICATION

The dissertation titled "RELATIONSHIP BETWEEN STUDENTS' PERFORMANCE IN ENGLISH LANGUAGE AND SELECTED SCIENCE SUBJECTS IN COLLEGES OF EDUCATION IN NIGERIA" by OBIANYO JOSEPHINE EGO meets the regulations governing the award of the degree of Master of Education of the Ahmadu Bello University, and is approved for its contribution to knowledge and literary presentation.

_____ _____

Prof. I.A. Olaofe Date
Chairman, Supervisory Committee

_____ _____

Dr R. J. Daura Date
Member, Supervisory Committee

_____ _____

Dr. A. Dalhatu Date
Head of Department

_____ _____

Prof. K.Bala Date
Dean, School of Postgraduate Studies

## DEDICATION

This dissertation work is dedicated to the memory of my late brothers for their impacts in my life. Mr. Martins Nolue Adimachukwu. You never bothered if your purse went dry for my sake. Brother may your soul rest in peace.

Mr. Basil Obinna Adimachukwu (Cassidy) together we bore the scorching sun to and fro Zixton Grammar School. Oby, may your beloved soul rest in peace.

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## TABLE OF CONTENTS


Title Page - - - - - - - - - i

Dedication - - - - - - - - - ii

Acknowledgements - - - - - - - - - iii

Table of Contents - - - - - - - - - iv

Abstract - - - - - - - - - xiii

**CHAPTER ONE: INTRODUCTION**

1.1 Background to the Study - - - - - - - 1

1.2 Statement of the Problem - - - - - - - 3

1.3 Objectives of the Study - - - - - - - 5

1.4 Research Questions - - - - - - - 5

1.5 Research Hypotheses - - - - - - - 6

1.6 Significance of the Study - - - - - - - 6

1.7 Scope and Delimitation - - - - - - - 7

**CHAPTER TWO: REVIEW OF RELATED LITERATURE**

2.1 Introduction - - - - - - - - - 9

2.2 Conceptual Framework - - - - - - - 9

2.3 Correlating Students' Performance in English Language and Physics - 11

2.4 Relationship between English Language and Students Performance in Biology - - 17

2.5 Relationship between English Language and Students Performance in Chemistry - - 23

2.6 Previous Studies on the areas of English Language and its' Relationship with Students' Performance in the science Courses in Africa and other parts of the World - - 28

2.6.1 Relationship between Students' Performances in English Language and their Performances in Physics, Chemistry and Biology in Nigeria - - 34

2.7 Appraisal of Literature Review - - - - - 38

2.8 Theoretical Framework of the Study - - - - - 42

**CHAPTER THREE: RESEARCH METHODOLOGY**


3.1 Introduction - - - - - - - 46

3.2 Research Design - - - - - - - 46

3.3 Population - - - - - - - 46

3.4 Sampling and Sampling Techniques - - - - - 47

3.5 Research Instruments - - - - - - 48

3.6 Pilot Study -- - - - - - - 48

3.7 Data Collection Procedure - - - - - - 49

3.8 Data Scoring Procedure - - - - - - 49

3.9 Method of Data Analysis - - - - - - 49


**CHAPTER FOUR: DATA PRESENTATION, ANALYSIS AND DISCUSSIONS**


4.1 Introduction - - - - - - - - 50

4.2 Presentation of Data and Solution to Research Questions - - 50

4.3 Data Analyses - - - - - - - - 58

4.3.1 Solutions to Research Questions - - - - - 58

4.3.2 Test of Hypotheses - - - - - - - 59

4.4 Overall Findings - - - - - - - 64

4.5 Analysis of the NCE Students' Written Work Errors - - 66

4.5 Discussion 69


**CHAPTER FIVE: SUMMARY, IMPLICATIONS, RECOMMENDATIONS AND CONCLUSION**


5.1 Introduction -- - - - - - - - 74

5.2 Summary - - - - - - - - 74

5.3 Summary of Findings - - - - - - 75

5.4 Implications of Findings - - - - - - 75

5.4.1 Implications for the English Language Teacher - - - 76

5.4.2 Implication for Content Subject Teacher - - - - 77

5.4.3 Implication for the Curriculum Planner - - - - 79

5.5 Recommendations - - - - - - - 80

5.6 Contribution of the Study - - - - - - 83

5.7 Limitations of the Study - - - - - - 84

5.8 Conclusion - - - - - - - - 84

5.9 Suggestions for Further Research - - - - - 85

References - - - - - - - - 86

Appendices - - - - - - - - 96

## ABSTRACT

*The work examines the relationship between students' performance in English and selected science subjects in Colleges of Education. The population is two hundred level Biology, Chemistry and Physics students in Colleges of Education in the six geopolitical areas of Nigeria. The research instrument was an academic record analysis (ARA) of the students' second year results in Biology, Chemistry and Physics as well as their general studies results in English language in both first and second semester using grade point average scores. The research discovered that performance in Biology has more relationship with English language than Chemistry and Physics. The work made some recommendations among which are content teachers of Biology, Chemistry and Physics students in Colleges of Education are expected to assist the students to focus on study of both their content areas and English language. The science teachers can assist by correcting or pointing out the English language errors in Biology, Chemistry and Physics written works of the students. The method adopted for the work is descriptive statistics using mean to answer the research question. While, inferential statistics by spearman correlation is used for testing the hypotheses. The Biology, Chemistry and Physics lecturers are expected to assign to students tasks that have direct relevance to their field of study to enable them exercise their skills of comprehension, analysis, application and synthesis bearing in mind cognitive academic language proficiency.*

## ABBREVIATIONS

| | |
|---|---|
| ARA: | Academic Record Analyses |
| GCE: | General Certificate in Education |
| $L_2$: | Second Language |
| CALP: | Cognitive Academic Language Proficiency |
| BICS: | Basic Interpersonal Communicative Skills. |
| NCE: | Nigeria Certificate in Education |
| NECO: | National Examinations Council |
| WAEC: | West African Examinations Council |
| SSCE: | Senior School Certificate Examination. |
| CGPA: | Commulative Grade Point Average |
| CLIL: | Content and Language Integrated Learning |
| NRC: | National Research Council |
| ESP: | English for Specific Purpose. |
| EST: | English for Science and Technology |
| EAP: | English for Academic Purpose. |
| EFL: | English as a Foreign Language |
| ELL: | English Language Learners |
| ESL: | English as a Second Language |
| FME: | Federal Ministry of Education |
| SPSS: | Statistical Package for Social Sciences. |

# CHAPTER ONE

# INTRODUCTION

## 1.1 Background to the Study

The cardinal goal of education in Nigeria is to inculcate and sustain the norms of the society in the students. In an effort to entrench the norms of the society on the citizenry in Nigeria, the Federal Ministry of Education on behalf of the Federal Government had stipulated the modalities for accomplishing the goal. This was why the National Policy on Education was compiled to serve as working document. Emphasis was stated in the document that some subject areas are core while others are optional inculcation of knowledge and skills on the learners. In any of the disciplines, the medium of transmitting the tenet is English language at the higher level. In like manner, the Federal Government requires that admission into tertiary level of education should be 40% humanities and 60% science related disciplines (FME, 2008). In other words, the government expects more learners in the science related disciplines. The implication is that education sector would require considering the combining factors that may help learners perform excellently. Among such factors that may add values to the expectations are the medium of expression, method of teaching, learning environment among others.

This study views the role of English language as the medium of instruction in the country's educational system on students' performances in three science subject areas with specific reference to Colleges of Education in Nigeria.

The problem of poor language faced by the learners is one of the areas educators have lamented over in Nigeria, Offorma (2005) among others stressed the issue and highlighted that it was formally believed that it was only science students that have problem with medium of expression. However, it is painful to note today

that students even those at the universities and worse still those in languages and Arts find it difficult to express themselves in the medium of English language. According to Amuseghan (2007) and Ndukwe (2008) it is disheartening to observe that despite all efforts by the government, private individuals and teachers at different points in time to bring about effective performance of students at various levels of education in Nigeria, there has not been much desirable result.

Many at the helm of affairs in education, parents and other experienced citizens are sad over students' overall performance in virtually all school subjects. The failure has been attributed to different factors of which students' performance in English language ranked highest. Many examination reports associated this to students' inability to communicate ideas logically and effectively to satisfy the demands of the examiners in the command and use of English language (WAEC Chief Examiners' Reports; 1997, 1998, 2000 and 2005, also NECO Chief Examiners' Report SSCE, 2005).

Most teaching practice supervisors have reported the performances of some of the trainee teachers in teaching practice exercises. According to the supervisors, poor expression which is as a result of lack of proficiency in English language makes it difficult for trainee teachers to deliver their lessons effectively. Ndukwe (2008) reported a case where trainee teachers in primary education could not tackle primary English effectively. Everybody seems to focus attention on the poor use of language as the major cause of nearly all the problems encountered in education of science subjects are taken to be among the core. For instance Dunbar in Hybels (2001), Offorma (2005) and Udosen (2005) have all emphasized the rate at which students' backdrop in English language has greatly affected their performances generally. In view of this, it is seen that anybody with expression problems, faces communication

problems in life. Language is man's principal means of expression that is, ideas, feelings; emotions will not be meaningful unless properly communicated (Rasheed, 2008).

English language in Nigeria is both a medium of instruction to learning other school subjects like the sciences as well as compulsory subject. It is assumed that good knowledge of English language brings about better performance of students in science subject areas. Rimintsiwa (2001) opined that the root cause of students' poor performance in English and other subject areas are school and classroom related problems. This means the teaching environment and teaching and learning processes in the science classroom are very vital factors in the students' academic pursuit that deserve proper attention for good performance. This was why this study sets out to investigate the relationship between students' performances in English language and selected science subjects (i e, Biology, Chemistry and Physics).

## 1.2 Statement of the Problem

Performance in education and English in particular has been a bone of contention in Nigerian educational system. For instance, Ashikeni (2007) pointed out that over the years in Nigeria, there has been a consistent down turn in students' performance in schools especially in the Senior School Certificate Examination (SSCE) particularly in English language. This, however, has brought about unacceptable and warning situation which disturbs teachers, parents, curriculum experts and in fact other educationists. Students poor performance in all examinations nationally and otherwise in English language and other subject areas have always been blamed on poor teaching and learning (Enigbhe, 2006). Because English language is the medium through which students are taught all school subjects (particularly Biology, Chemistry and Physics) in Nigeria after the acquisition of the

mother tongue, it has been observed that some of the students are affected in the following ways:

- Some science students at the Colleges of Education after the first two years of their studies cannot make GCGPA of one point to keep them in the system and this leads to their withdrawal. At the Colleges of Education, just like other levels of education, English language is the language of textbooks which these students read.
- Some science students at this level of education too, engage in examination malpractice because they cannot perform on their own which results in their expulsion from school. Sometimes it is observed that some of the students may have the knowledge of what is expected of them but communication in English language becomes a barrier to them.
- Again, some of the science students stay till the terminal year in school to graduate with very low grades as a result of inability to communicate ideas in English language. The language inefficiency makes their result very weak and in turn affects their job acquisition opportunities.
- Most science students lack knowledge of logical presentation of their laudable ideas in tests, assignments, results of experiments carried out or performed in written English language which emphasizes the level of conceptual conflict encountered in the course of learning science subjects.

In addition, science students are of the view that English language is not important or relevant to their success. This view is becoming deeply rooted and also yielding devastating results which if left unchecked may result in serious damage to students' performances at various levels of education. To support this, Donaldson (1978) posits that students need to be aware that 90% of difficulties in schools that appear conceptual have linguistic origin. The world has gone global enhanced by science and technology. However, Nigeria as a developing nation desires embracing all it takes to attain this global breakthrough and from observation science cannot be skipped if this must take place. Precisely, the language of science and technological breakthrough

the world over is English. The study therefore, seeks to compare students' performance in English language with those of Biology, Chemistry and Physics (the basic sciences) to find out if there is any relationship between them. This is to empirically ascertain the extent to which the students' performance in these areas is as a result of good mastery of English language.

## 1.3 Objectives of the Study

The major objectives of the study are to:

i. Find out whether there is relationship between the students' performance s in English language and physics in Colleges of Education.
ii. Discover the relationship between students' performance in English language and chemistry in colleges of Education.
iii. Investigate the relationship between students' performance in English language and biology in colleges of Education.
iv. Find out the relationship between students' performance in English language, Physics, Chemistry and Biology in Colleges of Education.

## 1.4 Research Questions

In view of all the general issues raised above, the present study shall have the following research questions:

i. What is the relationship between students' performance in English language and Biology in Colleges of Education in Nigeria?
ii. What is the relationship between students' performance in English language and Chemistry in Colleges of Education in Nigeria?
iii. What is the relationship between students' performance in English language and Physics in Colleges of Education in Nigeria?
iv. What is the relationship if any, between students' performance in English language and the sciences(Biology, Chemistry and Physics,) in Colleges of Education in Nigeria?

## 1.5 Research Hypotheses

For the purpose of this study, the following null hypotheses are relevant:

i. There is no significant relationship between students' performance in English language and Biology in Colleges of Education in Nigeria.
ii. There is no significant relationship between students' performance in English language and Chemistry in Colleges of Education in Nigeria.
iii. There is no significant relationship between students' performance in English language and Physics in Colleges of Education in Nigeria.
iv. There is no significant relationship between students' performance in English language and the sciences (Biology, Chemistry and Physics) in Colleges of Education in Nigeria.

## 1.6 Significance of the Study

The result of the study could improve the performance of students in the mentioned subject areas of the sciences; that is physics, chemistry and biology. This is because if the study finds out that there is positive relationship between performance in English and these other subject areas, the teaching of English in colleges of education can be reinforced to keep the performance for standard result. However, if the study discovers that the relationship is negative, it shall proffer ways to improve upon the performance to the achievement of the desired result.

The study may help to create better relationship between English language teachers and teachers in science subject areas so that they could unanimously fight the problem of students' performance in the selected areas of the sciences discussed in this study. When the teachers in training have access to the right type of intellectual and occupational development, usually acquired through the process of education and training, such teachers can most effectively face the challenges and vagaries of life in the society. The curriculum planners may as well learn to include certain language materials and exclude some to enable them overhaul the curriculum to enhance

performance in sciences through improvement in the teaching of English language structures. For instance, grammar, pronunciation, spelling, mechanical accuracy skills, mastery of subject content, mode of expression, organization as well as the four language skills of listening, speaking, reading and writing are vital skills students in every subject area require to enable them excel. If these skills are infused into the various subject areas in the curriculum, achievement in these areas will be enhanced and performance of students surely will be fostered.

Dubey, Dubey and Ndagi (1985) stressed that language development is vital and necessary for perception and development of ideas and concepts. In Nigerian context, English language development is very important for diverse functions, example; personal and interpersonal purposes (officially and unofficially). Because, English language is the medium of instruction in schools, when science students are properly equipped in it, the sky becomes their limit in performance because it is believed that problem detected is problem solved. The result of the study may equally provide science students with additional knowledge on skills acquisition in English language for expression, better definition of objects, events, situations as well as circumstances in teaching and learning situations.

Moreso, the findings of the study may as well acquaint the science students with the application of the general knowledge of common vocabulary in the concerned disciplines and also the technical vocabulary inherent in the disciplines of sciences (Biology, Chemistry and Physics) and their relevance.

### 1.7 Scope and Delimitation

The study covered trainee teachers at the Colleges of Education in the six geopolitical zones of the country. This encompasses Federal, state and private colleges of education. The conventional and technical Colleges of Education are used

in this research for better, wider scope and effective data collection, analysis and presentation. Similarly, the relationship between 200 level students' performances in General Studies English (GSE) and three science courses were considered in the investigation.

# CHAPTER TWO
# REVIEW OF RELATED LITERATURE

## 2.1 Introduction

Using language as a medium of teaching other subjects is a controversial issue which engenders vivid disputes. However, students need enough competence in language in general and English in particular to be able to learn other school subjects in the medium of English. When this science is a subject like physics people tend to think that foreign language could become a serious handicap because if the language is not efficiently acquired, it may pose a strong barrier to the achievement of the set goals in such science subject. This chapter presents the conceptual framework on which the study is based.

The chapter also reviewed literatures that are related and relevant to the study. These include; relationship between students' performance in English and physics, relationship between students' performance in English and chemistry as well as biology, relationship between students' performance in physics, chemistry and biology in Nigeria, Africa and other parts of the world, appraisal of literature and finally the theoretical framework.

## 2.2 Conceptual Framework

Performance in every school system is used as a tool to investigate and establish the students' level of competence in a course of study. Performance here is measured in diverse ways for instance through class discussion and activities, assignments/homework, presentations which are all based on either, written or oral tests. The weighing carried out by the teacher is recorded in form of letters or number grades explaining how well a student has done. Because education at all levels in Nigeria has its' objectives, importance is equally attached to these various areas and learners strive to meet the set standard.

It is however believed and expected that education of students at one level serves as the bedrock and foundation towards another. For instance, Asikhai (2010) posits that secondary education is supposed to be the stepping stone and foundation towards higher knowledge in tertiary institutions. The products of the Colleges of Education where this research work is hinged are being trained as future teachers. On graduation, some of the students may proceed to the universities for advanced training while others may seek employment with their NCE certificates which is the list qualification for a teacher in Nigeria.

In addition, the relevance of the medium of instruction in schools cannot be overlooked. The issues of science education especially the basic sciences (Biology, Chemistry and Physics) that involve much laboratory practical in skills acquisition shall neither be trodden upon. Aina, Ogundele and Olanipekun (2013) emphasized the importance of English language for good performance in education in their study "Students proficiency in English language relationship with academic performance in science and technical education". They were able to discover that proficiency in English language is strongly related to students' academic performance in science and technical education with correlation coefficient of 0.553.

Science education deals with study of Biology, Chemistry and Physics in line with the principles and methods of education for easy interaction with people from diverse areas of life. Aina (2013) in his work "Effective teaching and Learning in Science Education through informal and Communication Technology" noted that science education should address teaching of science concepts and guide against learners' misconception of ideas generally.

Ayodele (1985) and Yoloye (1965) asserted that good language competence in English language may be a positive prediction on the performance of students in

intelligence test. This is because performance unveils the competence in an individual. For instance a student's competence levels in grammar, vocabulary, mechanical accuracy among others are exposed in his/her written work. It was on this note that Abubakar (2005) while lamenting on the poor performance of students in West African Examinations Council (WAEC) observed the seriousness of the matter with relevance to the influence of English language on all other subjects of the curriculum. This is therefore a pointer to the role of English language to the overall performance of students in all their school works.

Researchers such as Akintola (1985), and Adesoji (1991) Observed that abilities in English language influence knowledge of students in other subject areas in the curriculum. Others are fakeye and Ogunsiji (2009) and Jekayinfa (1990) .Studies on the relationship between students' performance in English language and diverse courses in the curriculum have shown that English language has a positive relationship with these courses.

### 2.3 Correlating Students' Performance in English languages and Physics

Measurement and other techniques are vital in the work of the physicist. It is important to note that it has strong tie with mathematics but despite all these, the medium of the teaching of physics, is English language. In this context, it becomes content and language integrated learning (CLIL). Physics is the largest and most useful tool for taking the occurrences of nature, of a vast variety and making them amenable to man's mind (Kassab, 2010). To gain the awareness of the occurrences of nature and bring them closer to man's mind for effective application, Educators are responsible for providing everyone with the background knowledge to help cope with the fast pace of today of tomorrow.

We live in an age of constant scientific discovery, a world shaped by revolutionary new technologies. This means that teaching physics in English as a foreign or second language, involves some new things. The main one is that students are learning not only the subject - matter, knowledge and skills, but also the specific language which is the vehicle for the subject. In many parts of the world, physics as well as other sciences are taught in a second language and it is often English. Goffredo, Albanesa, Bozzo and Infante (2009) opine that content and language integrated learning (CLIL) offers a meaningful way for students to use the knowledge learnt in a specific context as a knowledge base in other contexts. As a result of this, Nikula (1997) says that CLIL has as goal subject matter and language learning this means that it offers opportunity for students to improve their proficiency in the foreign language without weakening the content subject.

Wolff (2007) opines that the fact that students learn the concepts of the content subject that are not already shaped by first linguistic items through a foreign language does not pose problem. Teachers and parents doubt the ability of students grasping key concepts in content area in various subjects in the medium of a second language including physics. However, it is important to note that if these subjects are planned taking into consideration the students' language need, and adequate methods adopted for their teaching, grasping the content of these subjects in a second language, will not be a problem and this equally include physics and other sciences.

Okoh (2007) says that in Colleges of Education in Nigeria, the teacher trainees are expected to develop the skills of listening, speaking, reading and writing to aid their class lectures, note taking, and even discussion outside the classroom setting. In conjunction with the above, physics, which is one of such subjects acquired via the medium of English language equally requires the students to be proficient in the four

language skills for efficient performance in this area. It is equally these skills in English language that prepare them in imparting knowledge to others when they become teachers

According to the National Research Council of the United States (1995) understanding of a course (subject for example physics) by an individual brings about easy link of the relevance of the course to the society. In addition, knowledge of the course and its' processes are equally aligned to personal decisions, shared excitement of discoveries as well as comprehension in the subjects that need to be understood for a meaningful life. For instance when the topic "friction" is discussed in physics the knowledge of the meaning of the terminology creates awareness of the fact that when bodies come in close contact with each other, the result is friction; apart from the general meaning of the word friction. Gozzo (2010) asserts that students will perform well in physics when taught through English because cross curricular teaching brings about application and transfer of knowledge from one context to the other and favours the development of net like cognitive map i.e. connection of ideas mentally.

Learning a subject for instance physics through different languages makes students flexible and aware of the role each of those languages may play to their comprehension of any given material. Moreso, concepts, strategies and skills taught in a specific language can be transferred to other content areas. E.g a well equipped teacher can equally teach students correct pronunciation in physics. Kassab (2010) stressed that physics is very rich in specialized words which have multiple meanings. To identify the key words is a very important task. In addition, word roots are very helpful to develop an understanding of the specific meaning of the word. To learn words then along with the scientific content is the best way of acquisition of scientific language. Constantine and Kassab (2009) posit that learning physics through the

medium of English develops also the communicative skills as it deals with using English to learn and as well learning to use English. A scheme of these skills and some related aspects is conveyed on the use of correct and suitable word for effective communication. English language as a subject equips a learner and makes him proficient and self reliant. Obemeata (1970) indicated that students' fail in examinations because of problem of proficiency in English language. Further more he stressed that reasoning in a second language situation depends mostly on the target language. More so, Fayehun (1991) in research on the relationship between English language and other subjects says that;

> The knowledge of English language particularly as a medium of instruction invariably affects the comprehension ability of the students as regards the other subject areas being studied it is naturally expected that the level of attainment of the students in English will be reflected on their performance in the other subject areas (p.10) .

The case above focuses on what the learners are able to do with English language to portray what they know through listening, speaking reading and writing exhibiting proficiency in physics through demonstration of competence in English language.

Adewoye (1983) carried out a research on the relationship between English language abilities and physics covering secondary schools in Ibadan and Ile – Ife. It was discovered that with a correlation coefficient of 0.72, students who are good in English may not necessarily be good in physics. Though the result discovered the above, it is not enough for one to quickly jump to a conclusion that English language has no role to play is student's performance in other subject areas.

Adeboye (1997), asserts that English language plays better role in other sciences than it does in physics. The dynamism of every society can result in overhaul and updates that can affect any learning situation at a given time thereby bringing

about changes both in attitude and performance. For instance, because physics is a course studied in schools within a society, its' curriculum is not static because the society is dynamic which means performances of the students are bound to vary. This may be as a result of their individual differences, level of understanding either based on availability of learning materials, home background as well as medium of instruction and methods or even the dynamic nature of the society itself.

However, vast arrays of findings portray researchers on this topic. May be it is important to note that learning continues in physics. There are vocabulary items associated with each field of study, physics inclusive just as there are words associated with objects and situations in real life. Anyone who is not familiar with such vocabularies will find it difficult to comprehend the topics they are concerned with. Itza-Ortiz, Rebello Zollman and Rodrigues-Achach (2004) stated that students fail to interpret the meaning of physics concepts correctly in English language as a result of confusion that gives rise to misconception. According to them, students interpret concepts in physics based on everyday meanings. This is why it is very vital that students are made to be conversant with the general everyday language i.e. the technical and the non technical vocabulary.

On the other hand, Ali and Ismail (2006) opine that students who learn physics not in the mother tongue face the problem of understanding both the scientific terminologies (technical terms) and regular explanation of the knowledge itself. According to the USA curriculum development center (2003), the use of English to teach and learn science this includes of course physics is general towards enabling students collect information in science and technology which is written in English. Using English to teach and learn in this context is in keeping pace with the latest development in science and technology.

Students also need to acquire proficiency in the academic language that is used as the medium of instruction (cognitive academic language proficiency (CALP). Kassab (2007) opines that using language in a new field leads to the raising of students confidence by inducing awareness of the knowledge of transferable skills. In the field of physics narrative and argumentative registers are needed in order to be expressed. This means a student in physics class who lacks the language skills of narration and argumentation will find it difficult to present work in a way it will be convincingly clear he/she has mastered the skills acquired in topics taught in the physics class. This is the stand of Goffredo, Albanese, Infante and Bozzo (2009) when they pointed out that in the field of physics narrative and argumentative registers are needed in order to be expressed.

The fact that physics is one of the practical sciences, all laboratory practicals carried out by the students need to be observed carefully and as well the procedures in like manner examined, recorded and equally reported. In addition, in portraying the differences in individuals, a physics student requires the skill of narration to be able to state any practical observation meaningfully where needed, argue areas that need to be argued out. All these require physics vocabulary terms for stating observation, and description, similarities and differences, identification, cause effect relations and classification of different electromagnetic behaviours are necessary to be learnt and applied when need arises

Torres and Zeidler (2000) propose that the above processes are engraved in the cognitive academic language proficiency (CALP) and that it is a concept related to literacy skills in first or second language. With the role of English as a second language in schools, NCE level of education not left out, the use of English language in physics not left out. Functionality is very important in the life of every individual

because it is this that helps everybody communicate using different learning styles. Finally it has to be noted that the formal use of English and its' skills in second language situation is not an easy one because learning a second language involves all the processes of first language acquisitions therefore any learner that is not patient and skillful enough cannot thrive in it because acquisition of second language is even more rigorous.

In conclusion, learning physics in second language situation is based on content and language integrated learning (CLIL). This work relies on the works of Goffredo, Albanesa, Bozzo (2009) Nikula (1997) who are all agitators of CLIL based on students using knowledge learnt in a specific context as a knowledge base in other contexts this study also lends from Kassab (2009) which stressed the benefit of learning physics in English for the purpose of acquisition of communication skills (using English to learn and learning to use English).

### 2.4 Relationship between English Language and Students' Performance in Biology

Skills and attitudes are acquired in education and accordingly, biology education aims at helping the child to acquire appropriate skills, abilities and completeness that would enable him contribute to the development of the society naturally. Credence is given to empirical methods such as the use of the laboratory in the study of biology (Okebukola 1985), inquiring (Olarinoye 1982), problem solving (Ayewole 1994) and guided discovery Ayewole 1990, 1991) because they provide opportunities for the child to have a direct experience with learning materials. Empirical methods have historically been regarded as communication methods in which the education communication system focuses mainly on the child especially in biology which is a natural science that deals with life a practical experience with

plants and animals and their classifications. These learning materials especially learning plants and animals presented in the medium of English language stimulates the child to respond accordingly and in some cases, the responses modify the learning materials either for inclusion of certain details or elimination.

Okebukola (1985) asserts that empirical methods of learning in biology were a communication system of high potential which if successful in the learning situation would result in an improvement in understanding and retention of concepts in Biology. The fact that English language is the medium of instruction in biology brings about caution to the Biology teacher who should always plan lessons from simple to complex and equally have full command of English language appropriate to the class level of the students. When any instruction is above or below the learner's level, learning is either affected positively or negatively. In light of the above Ige (1998) points out that one advantage of conceptual understanding is the ability to transfer knowledge to problem solving situation in daily life. When an NCE student understands concepts based on the style and strategy adopted in the learning situation, it results to performance that will be rewarded positively. This means that while teaching the biology students using English as the medium of instruction, conceptual meaning is only formed when students understand in practical terms the lesson materials and their applications in real life situation.

The pictures formed in their minds of the knowledge acquired make it easy for knowledge transfer to other areas of life. English language is a good aid to students' formulation and reformation of ideas and knowledge to their achievement in biology at NCE level. According to Clive (1995) reformulating knowledge makes it possible for the students or learners to express ideas especially in thought, speech and writing. This means that a learner applies the knowledge acquired through thought,

conversation as well as in writing for better clarification. For instance in biology, there is heightened awareness of knowledge and this is linked with the realization that each learner has to construct or reconstruct knowledge for himself and reords his own thought when inquiry method is used. The use of inquiry method in teaching biology with English language as the medium of instruction creates room for students to be fully involved because they will be required to speak by asking or answering one question or the other for the purpose of inquiry.

Lee (2010) suggests that performance in Biology has not been very smooth because science instruction typically has failed to help the English language learners (Ells) in ways that are meaningful and relevant to them, while also failing to help them develop proficiency in oral and written English. According to Lee (2010), several studies examined inquiry based instruction to promote biology discourse and English language proficiency. To Lee, biology skills and concepts are better acquired through science based integrated with other subject areas of the school curriculum. The NCE biology students' are taught in the medium of English language instruction and it is all about using English to learn and learning to use English thereby assuming that the inquiry method adopted embraces areas such as processes of carrying out things, procedures, components substances of laboratory materials, methods and stages of development in living things, characteristics of living things etc steps in carrying out activities as well as describing organisms for easy development of the inquiry skills in biology.

Biology uses process or procedural skills to find out facts on the biological concepts (Ajewole 1987). The procedural skills are used to transfer scientific knowledge, attitude, values and skills from the teacher to the learners. Also in biology, the use of pictures, diagrams, maps, chart, fossil, records, tables, models,

television activities, slides, projectors, radios, as well as tapes are vital because they convey diverse ideas about biological concepts. All the above, are delivered to the readers and learners in English language. For the biology students to decipher meaning from the above mentioned materials training in the medium of instruction, which in this context is English language is pertinent. If the students are not proficient in English language, it is possible they will have problem working with some if not all the above teaching and learning materials which they cannot do without in the study of biology.

Herr (2007) asserts that regardless of linguistic background, people around the world can interpret some keys, symbols and signs even in biology. Again they can interpret pictures, and with minimal linguistic skills, can interpret charts and graph. Though visual literacy or the ability to evaluate, apply, or create conceptual visual representation, is relatively independent on language and is therefore invaluable to learning biology and English language simultaneously. However, developing scientific literacy especially in biology, involves scientific vocabulary, reading and writing skills.

For instance, WACE chief examiners reports (2005) in biology stresses that candidates' weakness are noticed on the area of, poor mathematics skills, inability to plot graphs, inability to interpret tabulated results, inability to make logical inference from experimental results, inability to express themselves in English language, wrong spelling of labels. In year 2000, they emphasized weakness of candidates in areas of command of English language, spelling of biological terms, inability to use one word answers. Suffice to note that NCE Students in Nigeria are products of secondary schools where students exhibit these diverse weaknesses. Some biological concepts

require pure knowledge of English language in some specific terms (technical). Some examples of such items are:

| | |
|---|---|
| Dermis | flesh or tissue |
| Epidermis | the outer layer of tissue/skin |
| Meso | middle e.g mesocarp |
| Epi | outer e.g epicarp |
| Endo | inner, inside, internal e.g endoderm |
| Skeleton | Bones of living things |
| Exoskeleton | outer or hard protective covering of an organism |
| Cork | layer of plant tissue |
| Bark | part of a plant (outer layer) |
| Cell | basic unit of living things |
| Fertilization | starting flowering or reproduction |
| Transverse | Something cut cross |
| Longitudinal section | something wise cut lengthwise etc |

A student who understands affixation in English language and has the knowledge of word origin will easily understand that epi and exo in the words epicarp and exoskeleton are prefixes or otherwise additives to the words for derivative purpose. The level to which the NCE students will understand the meaning of the above words requires the knowledge of vocabulary outside the everyday language. Balarebe (2008) asserts that one of the problems of teaching and learning sciences generally including biology is that of language barrier. He stresses that it must have connection with their level of English language proficiency. Like the case above, the NCE biology student requires the skill of English Language vocabulary to perform the daily in class activities. In affirming, Otuka (2006) says that the problem of language in science teaching and learning is evident at all levels of our educational systems. NCE biology students need English language for organizing scientific information,

learning science with analogies, improving memory in science, structure and function in sciences, inquiry and research. Biology being one of the sciences is not an exception here.

The modern approach to language teaching and learning emphasizes the teaching of language items in situational relevant contexts in which they are used to communicate something definite and meaningful. NCE biology students can be frustrated if their performance in biology courses is not encouraging.

At the NCE level, it will help if the English is situationally relevant and the communicative ability enhanced. It is this current trend that brought about English for specific purpose (ESP), English for Academic purpose (EAP) and English for Science and Technology (EST). Biology skills and English language should be developed simultaneously, so that on graduation in real life, application of knowledge gained at school, the NCE biology students will not be lost, nor lag behind in the issue of English language usage.

According to Oklee and Avalos (2003) promoting biology skills acquisition with students who may be less familiar with biology skills requires instruction moves progressively along the continues teacher explicit instruction to students instinctive inquiry. This means the biology teacher must make the learning real, simple and continuous as the lesson progresses for easy understanding of the students. On the other hand, Fradd and Lee (1999) opined, that science learning, example biology can be made accessible to English language learners. This can be done through effective scaffolding as teachers use language that matches students' level of communicative competence in length, complexity, and abstraction and equally communicate at slightly above students' level of communicative competence.

The NCE students are teacher trainees but experience of different supervisors has shown that the NCE students' level of proficiency in English language deserves attention. Okoh (2007) concludes that probably because of the foundation they had before admission into the higher institution, their performance has to be improved upon. Teachers are advised to rely on theories of learning (Aborisade 2003) to enable them extract and apply relevant aspects of the theories in the teaching and learning situations. These theories emphasize need analysis and the adoption of communication methodology of second language acquisition (Otagburuagu 1997 and Olaofe (1995). Every learner has needs to achieve and for easy achievement of these needs, the teacher is to serve as guide to this by bringing into the learning situation relevant activities and suitable language bearing in mind their class level. In biology if the teacher applies the above conditions appropriately using English language, it will surely aid the understanding of the students because biology deals with real than abstract things.

Each of the above aspects, according to Bodunde (2005), revolved round learners. In summary, biology as one of the practical oriented subjects is to be taught in English using terms with less abstraction and complexity for effective application of the communicative skills by the students as they go through biology lessons.

## 2.5 Relationship between English Language and Students' Performance in Chemistry

Chemistry, one of the basic sciences but a physical science shares the characteristics of skill of thinking, investigating or inquiry, among others with other sciences. This is done for the growth of the body of knowledge about the natural world. The performance of students of chemistry therefore, relies upon the acquisition of the knowledge of the characteristics of science and its content knowledge.

Performance in this context does not rely on just what the students know but what they are able to do as a result of classroom instruction. The classroom instruction in chemistry in Nigeria is in English language where learners are exposed to practicals or experiments for synthesis and psychomotor purposes. The experiments are carried out based of steps, procedures and methods which if the students fail to understand the instructions, may lead to negative result (failure).

Brown (2005) states that since the goal of education is success, given the rightful information and support especially from the teacher and the school environments, performance of the NCE students in chemistry shall be enormous this is because when the language of instruction (English) is within their level and they are properly guided by the teacher, the desired result will be achieved. Although chemistry deals mainly with abstract concepts such as the structure of atoms, structure and properties of matter, and the conservation of energy and matter, the investigations of these concepts are carried out through laboratory experience and field work using the process of inquiry in the medium of English language. Barke (1982) emphasized that performance in chemistry depends greatly on the use of symbolic language with some degree of comfort. Although the course deals with symbols, it is still within the ambience of English language e.g

Water $H_2O$
Sodium Na
Hydrogen H
Helium He
Carbon dioxide $CO_2$
Nitrogen N
Sulphur S
Hydrogen Sulphate $H_2SO_4$

Among others

When a student is not familiar with these features of chemistry, it will be difficult for students to perform effectively. This means the use of English language as well as the symbols and formula in chemistry are very vital to the NCE chemistry students. The students' performance in chemistry requires motivation because of this language and the language should not be seen as a limitation. To Jones (1981) the symbolic language of chemistry should be appreciated for its' universality that in to say that the symbolic nature of the language of chemistry is generally acceptable because every substance chemical and element is represented with the same symbol world wide

Adegboye (1997) in a correlation study of the students' performance in English language and sciences, chemistry inclusive, through the analysis of the past results of students' in senior school certificate examination (SSCE), discovered that English language plays greater role in the study of chemistry than the study of any science subjects definitely because of its symbolic nature. The following researchers investigated the concrete-operational/formal-operational dichotomy with respect to science in general; Ausubel (1964), Beistel (1975) Herron (1975) Chiapetta (1976), Lawson and Blake (1976), Lawson and Wollman (1976), Karplus (1977), Herron (1978), Cantu and Herron (1978), Henry (1978), Gabel and Sherwood (1980), Ward and Herron (1980), Philips (1983), Abraham and Renner (1980), Chandran, Treagust and Tobin (1987), and Nurrenbern (2001). Very few of the studies by the above researchers dealt specifically with decoding or encoding in chemistry, Ausubel (1964) hypothesized that there is a combined influence of three concomitant and mutually supportive developmental trends that account for a transition from concrete-operational to formal-operational reasoning. First the individual who is developing on cognitive level will gradually acquire a working vocabulary of mediating terms that

will lead to combination of different related abstractions in this context; the NCE students are to develop English language vocabulary in chemistry to portray meaning in their class exercises and examinations.

Secondly, a greater number of stable higher order concepts will be available i.e. as an individual continues to develop at the cognitive level; advancement is made for higher order concepts.

This implies that students who are exposed to the right environment of learning and exposed to expected and required learning material will surely exhibit intelligent and cognitive skills using English language medium.

Thirdly after the individual has some practices in meaningful understanding and manipulating relationships with the aid of concrete props, progressions will take place to a stage where mental operations can be done without concrete props,

Science, and in this context chemistry instruction should be self-pacing to assist concrete operational students (chiapetta 1976). In the teaching of chemistry, Chiapetta (1976) suggested that teachers have to be sensitive to the needs of the learners if students require hands on instruction (practical), the appropriate time for such instruction should be provided. Hands-on instruction in chemistry is not just centered on the practical alone but equally involves the learner making use of English language to express either processes or procedures for carrying out exercises in the laboratory.

Chiapetta (1976) also proposed the use of concrete assessment methods. While Lawson and Blake (1976) suggested that students should have free interaction with materials and Nurrenbern (2001) acknowledges the role activities could play in the transition from concrete-operational to formal-operational reasoning, but expressed the view that such activities should best be seen as short-term intervention strategies

in learning contact in English language in second language situation the use of concrete operational activities make it real and meaningful thereby resulting to good performance. Because the learners will have simple opportunity of handling the teaching materials that appeal to the cognitive skill the sense of accurate use of language will be appreciated from the above, it is believed that performance at NCE level chemistry in the medium of English language deserves students being exposed to concrete things first before being allowed the opportunity of dealing with the abstract world.

For instance in a paper linking cognitive aspects of learning in chemistry to the use of symbols in chemistry, using English as medium of instruction Strauss and Lavine (1986) mentioned that students operating at concrete operational level will appreciate the use of symbols with the more macroscopic, experiential aspects of chemistry having the opportunity of dealing with concrete things. While using the same English medium, students at formal operational level will be able to understand the non-observable meaning of symbols.

According to Strauss and Lavine (1986), students should be encouraged to chunk information they do not understand completely in the course of their chemistry lessons in the medium of English language. This is to enable them use the information effectively in the interim. For instance the name nitrate can be chunked to "$N_{03}$. This can be used in situations only where certain features of the chunked information are of interest.

Bradley, Brand and Gerrans (1987), Verbeek and Louter (1991) Marais and Jordan (2001), Danili and Reid (2004), assert that the precision of the language if chemistry is problematic. This is because they believe that performance of students in chemistry will be affected if teachers use the terms; atoms,

"Molecules" and "ions" indiscriminately, misconception will invariably be the result. Difficulty in the learning of chemistry can be precipitated by a lack of chemistry language skills. The chemistry teacher in English as a second language situation has to bear this is mind and create avenue in the teaching and learning situation that will take care of this. (Verbeek and Lauter 1991; Marais and Jordan, 2001: Danili and Reid, (2004). The teacher should always remember the integrative approach in learning.

The use of chemical formulae in chemistry poses problem to the students of chemistry but if the teachers are competent and apply the right technique in the teaching, the skill will be acquired. Danili and Reid (2004) opine that if students study chemistry in a language other than their mother tongue, difficulties experienced in chemical language or cultural beliefs could be linguistic, contextual or cultural in nature. These scholars are of the view that when chemistry is learnt in the medium of a mother tongue, there will not be linguistic, contextual or cultural problem because every situation will be better understood in the mother tongue.

Houtz (2012), posits that for a language learner especially those in an English as a second language situation, organization of discourse is pertinent here activities like hands-on experiments and demonstration can be applied using embedded language.

## 2.6 Previous studies on the areas of English language and its' relationship with students' performance in the science courses in Africa and other parts of the world

In Rwanda, it has been found at the international and national levels, this country is at cross roads of French speaking central Africa and English speaking south-eastern Africa. According to Abbot (2006), the above situation is so at geographical, cultural, political and economic levels and this breed's trilingualism

constitutionally Kinyarwanda, French and English all co-exist as official languages of Rwanda.

Kigali institute of science and technology (KIST 2006), assert that it is difficult to imagine that is in difficult to imagine Rwanda students in general and KIST undergraduates in particular drawing the maximum from their English language professors to communicate with them at their different levels of study but ends up in poor output. Because of the existence of trilingualism in this country, it is difficult for Rwandan students to perform effectively at school as a result of confusion created in them by this situation. Abbot (2006), stressed that this affects both the written and spoken performances of the students.

According to Lewelling (1991) students encounter difficulties either understanding completely school work in the more cognitive-demanding language needed for successful performance in academic subjects as a result of lack of proficiency in the language of communication. The development of the cognitive skills is very vital in the life of the school child especially during the language acquisition years and second language learning, it determines the level of the child's performance in school Subjects.

Sleen (2002) opines that since colonial time in south Africa and the world over, proficiency in English language has always been emphasized by medium universities in developing countries and thus makes it an admission requirement for the students Sleen (2002) pointed out that performance in school level English is hardly correlated with an academic performance when controlling for the overall school performance. This means that when students' performance in other school subjects is being examined there is hardly a correlation between that and their performance in English though he did not specifically state why. All the same, this

never stopped any country from using this medium in school subjects because of its demand the world over.

Lip and Tsang (2006) pointed out that Hong Kong applied the use of English language in teaching in some secondary schools to explore the impact of a new language policy based on demand for graduate with high English proficiency. Lip and Tsang (2006) concluded that students taught with English language medium might experience greater learning problem in science because science involves abstract thinking and the mastery of scientific terminologies which pose high demanding language proficiency. The Hong Kong study was based on secondary school students but this amount study is focusing on tertiary institution students and trainee teachers.

In the United States, Torres and Zeidler (2006) discovered that English language proficiency is significant to students' performance in science standardized tests because they are made up of culturally and linguistically diverse students. That is, USA has students from different cultures, backgrounds, language and equally having English, as their first language (Li) thereby making English a compulsory medium of institution.

Akatugba and Walnce (1999) Lee and Fradd (1995) and Sutman (1995) in Houtz (2004), all stressed that USA students face diverse learning challenges in the science classroom among which are: influence of science knowledge and vocabulary on Students performance, the use of cognitive strategies and socio-cognitive influence. The culturally and linguistically diverse (CLD) students, that is learners from non English language backgrounds often have limited language and empirical knowledge and this according to Westby and Velasquez (2000), is enough impediment to the success of these children in school.

The NCE biology, physics and chemistry students in this particular study under English as a second language situation, like their counterparts in the United States of America may equally face the above challenges since the courses are taught in the same medium which is English language.

However, the importance of curiosity, honesty, openness and skepticism in science are not left out in the two situations but one difference is the environment. Moreso, in the United States of America, another challenge the second language learners of Physis chemistry and biology may face according to Barba (1993), Rakow and Bermudex (1993) Yate and Ortiz (1998) is that of teachers' lack of interest and unpreparedness to teach. Lee and Fradd (1998) opine that with reference to the principles of equity upon which the USA National Science of Education standard developed, educators should promote scientific literacy to embrace "knowledge" science (Vocabulary and knowledge) "doing" science (inquiry and process) "talking" science (discourse and communication) Exploring attitudes and values about science and achieving a science "word view" (identifying ways of learning science that are different from the way one learns about other bodies of knowledge). This implies teachers must create lessons and use teaching strategies that address the Students knowledge, doing, and talking about science (Westby 1977, Westby and Velasquez 2000). The authors mean students should be exposed to the knowledge of science, be allowed to acquire this knowledge, apply it and as well exercise the knowledge by being made to put down in writing or expressing this knowledge through speech.

The NCE English as second language learners of physics, chemistry and biology are equally expected to be exposed to this kind of situation and then be tested. This will offer a context for language development, increase the development of scientific process skills such as communicating, inferring and applying, helping

students to better understand their world. This will in turn expose the students to literacy that will prepare them for conceptual understanding, critical reasoning, problem solving as well as independent learning.

In addition, Lee and Fradd (1998) Mastropieri and Scruggs (1992) Watson and Houstz (1998), Westby (1997, 1998) emphasized that hands-on science should always be planned to avoid any challenge this may cause to the culturally and linguistically diverse students as a result of difference in language and socio-cultural experiences. Since these three science subjects being examined are practical oriented courses, it is pertinent therefore that, both the government, educational institutions, teachers as well as parents work collaboratively to enable the second language learners achieve their aims of studying these courses. This is important because the second language learner of English may not have the background knowledge to understand certain scientific concepts (example properties of earth materials) the socio-cultural learning skills to participate in actively-based. Lessons (example working with a partner in an experiment); and the language skills to understand and communicate scientific concepts (example: Volcanoes and earthquakes can cause dramatic changes to the earth's surface. Students from areas where these phenomenons are not common will not find it easy to understand.

In short-meetings, the standards generally is more cognitively demanding for students with limited English proficiency than for students whose first language is English.

Other parts of the world where English serve in school as a medium of instruction or content subject include Australia, Belarus, Belgium, Canada, China, Philippines, India, Ireland, Pakistan, Scoteland, Tanzania (Claudia and Mathelitsch 2007). Claudia and Mathelitsch (2007) in their work "English as a medium of

instruction in science teaching", point out that in Austria as well as the world over, the international developments has increased the need for workers with a well-founded expert knowledge and a profound competence in English. This knowledge according to them is exhibited by English as a medium of instruction graduates who are flexible in foreign language communication as they are able to talk about a large variety of subject specific topics. If physics, chemistry and biology are taught as content subjects in the medium of English as a second language, it is observed that complicated subject specific topics are explained more slowly and on a simpler linguistic level which often contribute to a deeper subject understanding. The use of non verbal representation such as pictures, graphs, animations and hands-on brings about maximum input.

Madrigal (2008) asserts that the Philippines is the largest English speaking country in Asia but do not speak it fluently. The science education performance of students in Philippino is affected seriously according to Madrigal (2008) because more attention is paid to Tagalog or the Philippines language which has fetched the country less international recognition.

Houtz (2004), suggests that to meet the need of second language learners of English, educators must recognize what is required in learning tasks such as 'vocabulary knowledge' the ability to work independently and make no reference. Being award of students' strengths and weaknesses example, completion of tasks, reading, decoding skills will definitely prepare a science teacher for the task ahead.

Using English as a medium of instruction or a content subject in teaching and learning physics, chemistry and biology provide students with investigative skills and procedural technique through experimenting and manipulating scientific equipments. English as content subject had negative effects on student's performance in content

areas such as physics, chemistry, biology, mathematics, history etc. It could be interpreted that the students have difficulties in mastering the basic terminologies and developing subject matter in English language.

This review has shown that students' academic performance in an $L_2$ English language situation like Nigeria especially in physics, chemistry and biology has to take into cognizance cognitive language acquisition ability of the students. Again the fact that every field of study has its own vocabulary, grammar and discourse should be borne in mind, so that in their context of use they are applied consciously and correctly.

The NCE students of physics, chemistry and biology should be allowed to exercise their skills in hands-on situation in the guidance of a teacher. Communication is very vital to a students' performance because it speaks greatly of the students. It is used for expression, logical presentation of finished exercise as well as in class discussion even in out school activities.

### 2.6.1 Relationship between Students' Performance in English Language and their Performances in Physics, Chemistry and Biology in Nigeria

In Nigeria, the role of English language as a medium of instruction from primary to the tertiary level of education is no longer news. This is because the knowledge of subject contents at schools is imparted on learners at all levels of education in the medium of English language.

Researchers such as Akintola (1985) and Adesoji (1991) observed that abilities in English language influence knowledge of students in other subject areas in the curriculum. Others are Fakeye and Ogunsiji (2009) and Jekayinfa (1990). Every discipline in human endeavour has its peculiarities in terms of content under education. But whatever the content may be, it is important to understand that these

contents can be understood based on the medium of instruction, methods of delivery of the content and also the material aids applied in the delivery of the content. The learner is placed at the nucleus of learning with the special purpose method need, method analysis, content orientation and communicative methodology in the classroom

Maleki and Zangani (2007) commented that students' inability to grasp fully the content and concepts of various subjects of the curriculum taught in the target language seems to be one of the most serious problems that English as a foreign language (EFL) students face in their particular subject areas all over the world. According to them the English as second language (ESL) students in Nigeria share the same problem. This assertion is buttressed by the West African examination council (WAEC) Chief Examiners' reports on the senior school certificate examinations of various years in WAEC, SSCE and GCE (2000, 2002, 2003, 2005 and 2007) and NECO Chief Examiners' reports of (2003, 2004, 2005 and 2007). In 1997 for instance, the WAEC Chief Examiners' reports on the Senior School Certificate Examination May/June stated that:

> *The performance of students in English language has been steadily deteriorating in the recent past. The main cause of this downward trend may be traced to inadequate preparation of the candidates by the schools. For instance, some of the weaknesses in part "A" (Essay) include:*

i. The inability to punctuate:
ii. The ignorance of the difference between a sentence and a phrase
iii. In correct grammar usage
iv. The inability to express ideas in English
v. Immature vocabulary and the use of wrong words.

The above observation of the chief examiners is one out of diverse comments of authorities over students' performances. However the NCE students are equally

guilty of one or more of these offences for instance, their inability to perform in: spelling, punctuation; incomplete and incorrect sentence grammar, expression, vocabularies of their areas of specialization put their performance to jeopardy. The NCE physics, chemistry and biology students are expected to exhibit skills that will span linguistic discourse interpersonal, socio-cultural, strategies and pragmatic competences in them.

A science student, who develops skills around the areas mentioned above, will in practice cross cut concepts and disciplinary core ideas of the sciences. Here, analytically, conceptual understanding of current topics and receptively comprehend and develop own understanding of a topic or other's ideas, expressed orally or in writing. Science students are also required to comprehend questions and responses of others as these are very vital aspects of language skills. Students are expected to communicate orally and in writing ideas, concepts and information related to a phenomenon or system in their areas of specialization in for instance physics, chemistry and biology.

Piwuna (1998), pointed out that verbal communication of 51 teaching practice science students observed reveals that all have one form of language error or the other which affects their delivery of lessons tremendously. Diverse researchers have different views about this situation. For instance Ale (1981) opines that physical sciences like Physics cannot do without mathematics but rather have negative relationship with English language. In this case, Ale (1981), says there are a lot of evidence showing a strong association between mathematics and development of science and technology. All the same, English language medium content subject increases motivation in students because sometimes the students find the subject physics much more interesting since different teaching methods like team teaching are

used. Students who like English than physics on the other hand find the English medium instruction method motivating.

In addition, Adesoji (2008), in correlating English language and mathematics to students' performance in physics, discovered relevance between mathematics and physics but stressed that English language was irrelevant to Students performance in physics.

Adegboye (1997), in correlation study of the students' performance in English language and science subjects through analysis of past results of students discovered a multiple correlation between English language, chemistry and biology.

A lesser correlation was discovered between English Language, mathematics and Physics. Nevertheless, Herr (2007), advocates that science teaching in English as a second language situation should be accompanied by the teaching of origin of the root of words. The importance of Herrs position is in its enhancement of the understanding of Greek and Latin prefixes, suffixes and roots in scientific terms. This means teachers must not forget that some words being used in English are borrowed from other languages of the world and the knowledge of their origin is of great importance to the science students to their understanding of the body of science. Adewoye (1983), opines that students who are good in English language may not necessarily be good in physics. While Jekayinfa (1990) on Adewoye's findings opines that the result may be because English language is a verbal subject which involves a lot of reading and understanding while physics is a non-verbal subject but based on empirical or practical activities.

Olaofe (2003), Abubakar (2008) Attah (2008), lamented over the serious steady decline of students' performance in English language which is a pointer to performances in other areas being the medium of instruction. In sciences, Arts,

vocational Education studies, in fact virtually all areas of human endeavour, it has been observed that proficiency in English language is the key to good performance in all subject areas because these courses are learnt in the medium of English language. This study has reviewed different literatures to investigate the relationship between students' performance in English language and selected subjects in the sciences at the NCE level of Education in Nigeria. It is a known fact that English language in Nigeria is a second language and a medium of instruction. The rigor of acquiring or learning a second language cannot be over emphasized. The relevance of this language in the classroom as a subject and medium of learning other school subjects in this country and the world over is a pointer to the attention it deserves in its teachings for proper application in practical situation.

**2.7 Appraisal of the Reviewed Literature**

| Authors Reviewed | Summary of aspects reviewed | Areas related to the present study |
|---|---|---|
| Barke (1982) | Chemistry deals with the use of symbolic language but within the ambience of English. But when the students are not familiar with the symbols this affects their performances. | Chemistry is studied in Nigerian schools in the medium of English language which requires the students being proficient in this language of instruction for better understanding. |
| Adegboye (1977) | A correlation of students' performance in English language and sciences including Chemistry using students' past results in SSCE, revealed that English language plays greater role in the study of Chemistry than the study of other science subjects. | This study used past GSE results to get its relationship with Physics, Chemistry and Biology at the NCE level. |
| Ausubel (1964) | Ausubel hypothesis is based on three developmental trends that account for a transition from concrete operational to formal operational reasoning which are; (1) cognitive development in an individual requires gradual acquisition of a working vocabulary and terminologies to easily build different related | This study is as well borrowing from Ausubel (1964) the fact that learning has stages which develop from concrete to abstract. Again, it is pertinent to know that cognitive development cannot be attained passively without the acquisition of working vocabularies and terminologies in Chemistry to easily build |

| | | |
|---|---|---|
| | abstractions. (2) Advancement is gradually male for higher order concepts as an individual continues to develop at the cognitive level. (3) Learning is a progressive process whereby an individual will exhibit what he/she has learnt after a while but not just being stagnant. | different related abstractions. Higher order concepts cannot be achieved unless there is cognitive advancement. Finally learning is a progressive process which enable the learner exhibit his or her skills stage by stage is important. |
| Nurrenbern (2001) Strain and Lavine (1986) | These authors stress the relevance of concrete activities in the transitions from concrete – operational to formal operational reasoning but further said the activities should be a short term intervention strategies. This is because in learning content in English language in second language situations, the use of concrete operational activities make it real and meaningful thereby resulting to good performance. When learners have ample opportunities of handling the learning materials that appeal to the cognitive skill, the sense of accurate use of language will be appreciated. | This study borrows the importance of concrete activities in the classroom for use in operating during one's reasoning. |
| Kassal (2010) | This author sees delivery of Physics in the medium of English language as content and language integrated learning (CLIL). He goes further to state that there is great gain in learning Physics in English language because it enables the students acquire English language skills as vehicle for the subject and the subject matter knowledge and skill. | The area relevant to this study is the application of the gain of CLIL both in the classroom as well as outside the classroom setting. This is so because whatever is learnt at school does not just end there but extends to one's later life. |

| | | |
|---|---|---|
| Nikula (1997) | Speaks of the goal of CLIL which is subject matter and language learning which gives room for students to learn the language and still maintain the subject content. | This study looks at the importance of learning a subject matter in the medium of English language (e.g Physics) to develop good language, skill and use skills acquired to perform in the content area effectively. |
| Okoh (2007) | This author emphasized the need for NCE students to be trained on the development of listening, speaking, reading and writing in Physics to enable them cope with lectures, taking class notes and engage in meaningful discussions and contribute in class lessons. Moreso, prepare themselves for imparting knowledge to others on graduation. | This study examined the performance of students in Physics in the medium of English language which is important to note that the language skills of listening, speaking, reading and writing are relevant to students' performance in both school and elsewhere. |
| National Research Council of the USA (1995) | Understanding of a course results to application of the knowledge to societal problems and solving of one's personal problems, sharing of discoveries in general life in Physics. | The flexibility of learning Physics through English language brings about concepts, strategies and skills taught in English being transferred to Physics. |
| Obemeata (1970) | Students fail in examinations because of problem of proficiency in a second language as reasoning in second language situation depends mostly on the target language. | The NCE Physics students rely on English language for the class exercises, empirical activities and discussions therefore their reasoning depend on English language. |
| Fayehun (1991) | Knowledge of English language especially as medium of instruction affects the comprehension ability of students. | Students demonstration of competence in Physics is vital |
| Ismail (2006) | The work of Ismail emphasizes learning Physics in the mother tongue to avoid misconception and problem of understanding both scientific terminologies (technical terms) and regular explanation of the knowledge itself. | Physics texts worldwide are written in English language except if some countries decide to transmit it into mediums of instruction different from English language in their territories. Nothing is borrowed here for this study. |

| | | |
|---|---|---|
| Adewoye (1983) | Observes that students who are good in Physics are not likely to be good in English. | This study discovered the same result as the work of Adewoye (1983) although as reviewed. |
| USA Curriculum Department Centre (2003) | The author observes that Physics is good to be taught and learnt in English language for easy collection of information. Since materials for science and technology are made available in English language learners can keep pace with development in science and technology if they are taught in English language. | Technology is all about transfer and application of knowledge and in Physics, narrative and argumentative registers are needed in order to be expressed especially when one discovers ground sin Physics. |
| Fradd and Lee (1999) | The second language learners E.g ESL students can learn Biology in the medium of English language by the use of Scaffolding. The medium of instruction in this situation English should be at the level of the learner's communicative competence. | This study borrows from the work of Fradd the use of English language communicative competence at the educational and age level of the learners. |
| Lee (2010) | Believes that Biology skills and concepts are better acquired through science based interdisciplinary approach in which a series of science inquiry lessons are integrated with other subject areas of the school curriculum. Biology discovery can be promoted through English language. | Students can develop their vocabulary skills in English using Biology terminologies: skeleton, bark, cork etc. The use of chemical formula for both Chemistry and Biology E.g $H_2O$ = Water $CO_2$ = Carbondioxide. $NO_2$ = Nitrogen oxide etc. |
| Otuka (2006) | Emphasized the use of English language in teaching Biology because the problem of language in teaching and learning science is glaring at all levels of our educational system. | English language is relevant here because keeping abreast with modern trends in language learning stresses situational relevant context in which language is used to communicate something meaningful and definite. |
| Oklee and Avalos (2003) | In the case of students without proficiency in English language, the Biology teacher should teach them with explicit instructions. | Clarity no doubt is very important in teaching and learning situation. |

| | | |
|---|---|---|
| Herr (2007) | Opines that science teaching in ECL situation should be accompanied by the teaching of origin of root of words because some science words have Latin and Greek origin. | This work is aware of the registers of the field of science with particular reference to borrowed words in English language. |
| Adesoji (2008) | The work of this author stressed that there is no relationship between Physics and English rather it is mathematics that has relationship with Physics. | Physics is one of the science subjects examined by this study therefore we shall get to find out more about physics, and its relationship with English. |
| Maleki and Zangani (2007) | Observe the word wide it is painful to note that students find it difficult to grasp the content and concept of the curriculum of courses taught in English language medium. | This study examined content subject and English language medium. |
| Yip and Tsang (2006) | These are of the view that language (English and Chinese) has no relationship with students' performance in the science, physics, chemistry and biology and even mathematics. | This work is different from that of Yip and Tsany because they are conducted in different linguistic environments and belief. |
| Houtze (2004) | Observes that meeting the needs of secondary language learners of English required educators understanding what is required in learning tasks e.g vocabulary "knowledge" performance work independently. | This study borrowed from Houtic the importance of independent work of the students to their achievement in tasks. |

## 2.8 Theoretical Framework of the Study

Taking into account the role of language in human endeavours and most especially in learning, it is viewed that a learner would key into the constructivist postulates if well-grounded in language acquisition. The theory of constructivism falls into the cognitive domain with a belief that learners construct new ideas based on existing knowledge. This implies that the possibility of a learner to construct a concept cannot be devoid of adequate language development. The type of language acquisition being referred to in this context is the Cognitive Academic Language

Proficiency (CALP). This is the type of skill required by the science students in this study because they are second language learners of English Language. CALP deals with learning a language alongside content subject in second language situation. This is why the theoretical framework of this study embraces the theory of constructivism as propounded by Ausubel and Brunner as well as Krashen and Cummins among others.

❖ **Ausubel's Assimilation Theory (1918-2008)**

The Assimilation or subsumption theory or theory of advanced organizers is all about how learners explore a large amount of meaningful material from verbal or textual presentations in a school setting. The theory applies to expository learning in school settings and involves reorganizations of existing cognitive structures. This implies in principle that the most general ideas be represented first in a subject before being differentiated progressively in detail and specificity.

Similarly, instructional materials would have to integrate new materials with previously presented information through comparisons and cross referencing of new as well as old ideas. It is required of the learners to associate new knowledge with existing concepts gradually as in the case of science subjects in their mental structure. It is a theory strongly oriented towards discovery processes which ensures meaningful teaching necessary toward rote memorization of facts.

Science students who learn by discovery find learning meaningful only when the new knowledge structure is mostly complemented with language involvement. As an advanced organizer, the instruction required is presented by an instructor using language as a tool to help the learners organize new incoming information. In order to enhance understanding then organizer is expected to indicate the relations among basic concepts and terms as in the case of sciences that would be utilized.

❖ **Brunner's Theory of Instruction**

Brunner's theory of teaching emphasizes that learning is an active process in which learners construct new ideas based on current or past knowledge. As familiar in sciences, the learners in this regard select and transform information, construct, and hypothesize and decide the next action by relying on a cognitive structure to do so. This theory has been illustrated in the context of mathematics and social science programmes for young children. It requires that the instructor makes effort at encouraging students to discover principles by themselves, hence the need for the instructor and students to engage in an active dialogue. This is why language learning in young children is considered paramount.

The basic principles inherent in the theory include a consideration of an instruction which takes into account students willing and able to learn. Similarly an easily grasped instruction is to be structured for the students (i.e. spiral organization). More also, the design of an instruction is such that would facilitate extrapolation. This theory supposes that social interactions play a crucial role in the development of cognitive ability and of language. The emphasis rests on the fact that children learn language in order to communicate as they equally learn the linguistics code.

Three modes of representations are characteristics of Brunner's theory. There are *enactive* (motor responses), *Iconic* (Visual images) and *symbolic* (arbitrary words and symbol systems) which are not necessarily hierarchical, rather some learning is achieved by passing through each mode in a specific developmental order.

These two theories considered hold similar views about the hierarchical nature of knowledge. Brunner tended to discovery processes, whereas, Ausubel yielded to verbal learning methods of speech, reading and writing. Discovering learning is one of the means through which science teachers lead students through scientific inquiry

while good verbal and written expression would aid better understanding reflective in the students' performances in their disciplines.

- **Education and linguistic theory**

It has been asserted by Krashen (1976; 1981 & 1982) and Krashen, Lung and Scarcella (1978) that language use in the classroom is seen as conscious language learning because it is taught and learnt under the guidance of a teacher, using textbooks, taking formal classes and learning rules, vocabulary, grammar and idioms of the second language. This differs from the unconscious language acquisition which is naturally developed.

Similarly, Cummins (1980) and Krashen (1976; 1979; 1981 & 1982) suggested that English as a second language (ESL), science students though may be proficient in their communication skills in English but will lack the Cognitive Academic Language Proficiency (CALP) Skills required for learning science or other academic subject matter. The Cognitive Academic Language Proficiency (CALP) Concept is related to literacy skill in the first or second language. According to Cummins, this requires both higher levels of language and cognitive processes in order to develop the language proficiency needed for success and achievement in school.

Likewise, Cummins (1982), Chamot and O'malley (1986) and Shun (1978 & 1981) have conceptualized the relationship of language proficiency and academic achievement by using an Iceberg representation. In Iceberg representation, Basic Interpersonal Communicative Skills (BICS), or Skills which depend on the surface features of language and lower levels of cognitive processes are represented above the waterline; while the cognitive academic language proficiency (CALP) or skills related to the meaning of language and higher level of cognitive processes are represented below the waterline. This means CALP requires more and advanced skills to be achieved unlike BICS.

# CHAPTER THREE

# RESEARCH METHODOLOGY

## 3.1 Introduction

This chapter discusses the methodology adopted for research design, and in selection of the population and the sample as well as research instrument, data collection and procedures for analyzing the data in the work.

## 3.2 Research Design

This study is a descriptive research which demands the application of a survey design since the event studied already existed within the population. Abimbode (2000) asserted that for a descriptive research of this nature, it only requires the researcher to describe certain situations or characteristics of certain phenomena. Similarly, it is basically a content based analysis since only existing records of students' scores in General Studies in English (GSE) and the sciences: Biology, Chemistry and Physics from the Colleges of Education were used. This is more so since there was no possibility of experimentation and data required were already in existence in the respective files of the students. This is where the design applies more adequately (Sambo, 2008).

## 3.3 Population

The population for the study consisted of students who had spent at least a year in the 64 Colleges of Education in all the geopolitical zones of Nigeria. The students' population of 1468 embraced those in 200 level and offering courses in any of Biology, Chemistry and Physics.

## 3.4 Sampling and Sampling Techniques

Two sampling procedures were used in the study. The locations in which the colleges are situated are already stratified into zones and five of these zones were selected for the main study while the sixth was used for the pilot study. Similarly, the colleges have been stratified into federal, state and private institutions. Purposively, 4 federal, 4 state and 1 private colleges were selected in all. Purposive sampling was also adopted in selecting the General English offered in 200 level by the students in Biology, Chemistry and Physics departments. Academic records of 20 students were randomly selected in each department alongside their GSE score to serve as data for the study as indicated on Table 3.1. Therefore, 540 students were selected and their scores in the various courses were used for data analysis. This sample is believed to be appropriate in accordance with the view of Krejcie and Morgan (1970) who put forward the condition for selecting a sample size from a known population size of 1500 to range between 306 and 624 at a confidence level of 95%.

**Table 3.1: Students Sample size used for the study**

| Geopolitical Zones | Colleges of Education | College Type | Estimated number of science students | Total selected |
|---|---|---|---|---|
| South West | Oyo Emmanuel Alayande | State | 216 | 60 |
| | Oyo special | Federal | 162 | 60 |
| South East | Nsugbe | State | 124 | 60 |
| | Umunze | Federal (T) | 139 | 60 |
| North East | Azare | State | 106 | 60 |
| North Central | Kontagora | Federal | 245 | 60 |
| | Ilemona | Private | 145 | 60 |
| South South | Agbor | State | 175 | 60 |
| | Asaba | Federal (T) | 156 | 60 |
| | Total | | 1468 | 540 |

### 3.5 Research Instrument

The instrument used in this present study is an Academic Record Analysis (ARA). It is the records of the students' academic scores in the various courses they offered.

### 3.6 Pilot Study

A college of education was selected from North West geopolitical zone of Nigeria. Integrated science was selected purposively. The result of four students at 200 level in integrated science and their general English were collated and presented in table 3.2.

Table 3.2: Pearson Product Moment Correlation Analysis of data from pilot study

| S/N | Students ID | Students' scores in English (X) | Students' scores in ISC (Y) | | | | | Total | Average |
|---|---|---|---|---|---|---|---|---|---|
| | | | 111 | 113 | 115 | 125 | 126 | | |
| 1 | A | 51 | 41 | 55 | 63 | 49 | 50 | 258 | 52 |
| 2 | B | 77 | 70 | 81 | 73 | 61 | 60 | 345 | 69 |
| 3 | C | 25 | 21 | 50 | 37 | 22 | 31 | 161 | 32 |
| 4 | D | 62 | 24 | 50 | 40 | 18 | 26 | 158 | 32 |

| Students | X (Eng.) | Y (ISC) | XY | $X^2$ | $Y^2$ |
|---|---|---|---|---|---|
| A | 51 | 52 | 2652 | 2601 | 2704 |
| B | 77 | 69 | 5313 | 5929 | 4761 |
| C | 25 | 32 | 800 | 625 | 1024 |
| D | 62 | 32 | 1984 | 3844 | 1024 |
| | $\sum X=215$ | $\sum Y=185$ | $\sum XY=10749$ | $\sum X^2 =12999$ | $\sum Y^2 =9513$ |

r = 0.690

**Properties of Correlation Coefficient**

1. r has values from +1.0 through 0.0 to – 1.0
2. Positive reflects a direct relationship between the value of the two variables
3. A negative r reflects an inverse relationship between the values of the two variables.
4. A zero r means that there is no linear relationship existing between the two selected measurements.

This shows that r is positive hence there is a direct relationship between the students' performance in English and Integrated Science.

### 3.7 Data Collection Procedure

The researcher obtained a letter of introduction from the University which was made into copies and a copy was presented to each of the heads of the academic registries in the colleges of education sampled for this study. The heads of the academic registries directed thereafter the academic secretaries to collect from the departments of Biology, Chemistry, Physics and GSE, the required records of the 200 level students involved in the study. The files containing the academic scores/grades of the students in the respective departments were obtained and photocopied while the original documents were then returned to the respective departments.

### 3.8 Data Scoring Procedure

The raw scores of the selected students in the courses offered at 200 level were extracted. The scores on general English were retained while the average scores were obtained for those courses in Biology, Chemistry and Physics respectively.

### 3.9 Method of Data Analysis

The data collected were analyzed through descriptive statistics using means to answer the research questions. It as well involves inferential statistics using Spearman Correlation for testing the hypotheses at the alpha level of .05 for a hypothesis to either be retained or rejected.

# CHAPTER FOUR
# RESULTS AND DISCUSSIONS

## 4.1 Introduction

A total of 540 records of students in science departments of nine Colleges of Education in five geopolitical zones of Nigeria were used in this study. The records used included the scores in General Studies English language and those of Biology, Chemistry and Physics for students at the 200 level. The analyses were presented and the results were used to answer the research questions and to test the hypotheses. The findings from the results were discussed appropriately in this chapter.

## 4.2. Presentation of Data

The purpose of this chapter was to give detailed account of the data collected using the instrument of the study. Statistics such as the percentages, mean, standard deviation, t-test and F-test were used for the analyses and testing of research hypotheses of section 1.5 in chapter one. The summary of the data are presented in Tables 4.1 to 4.4 and charts 1, 2, 3 and 4 below.

**Table 4.1: Mean Performance in Sciences by different Grade Points in English, Biology, Chemistry and Physics**

| Subject | No. | Mean | Std. Dev. | % Passed | % Failed |
|---|---|---|---|---|---|
| English | 270 | 51.03 | 12.728 | 90.7% | 9.3% |
| Biology | 270 | 54.4815 | 12.22701 | 95.5% | 5.5% |
| Chemistry | 270 | 49.9630 | 14.54740 | 86.0% | 14.0% |
| Physics | 270 | 53.7148 | 15.02106 | 90% | 10% |

From the table above, English has a mean of 51.03 and standard deviation of 12.728 with 90.7% passed and 9.3% failed candidates out of 100%. While Biology has 54.4815 mean, 12.22701 standard deviation and 95.5% passed and 5.5% failed

candidates failed out of 100%. On the other hand Chemistry has a mean of 49.9630, standard deviation of 14.54740 with 86.0% number of candidates passed and 14.0% candidates failed out of 100%.

Physics has a mean of 53.7148, standard deviation of 15.02106 and 90% passes and 10% failures out of 100%. This therefore means since all these course are taught in the medium of English, Physics has closer association with English because of its mean of 53.7148 followed by Biology with a mean of 54.4815 and finally Chemistry with 49.9630. This implies that students in Biology performed better followed by Physics and finally Chemistry.

**Table 4.2: Frequency and Percentage of Grade Points in English, Biology, Chemistry and Physics**

| **Grade Points** | **English** | **%** | **Biology** | **%** | **Chemistry** | **%** | **Physics** | **%** |
|---|---|---|---|---|---|---|---|---|
| F | 25 | 9.3 | 15 | 5.5 | 40 | 10.0 | 27 | 10.0 |
| E | 45 | 16.9 | 35 | 13.0 | 52 | 15.9 | 43 | 15.9 |
| D | 34 | 12.6 | 39 | 14.4 | 39 | 13.0 | 35 | 13.0 |
| C | 94 | 34.8 | 89 | 33.5 | 55 | 20.4 | 55 | 20.4 |
| B | 56 | 20.7 | 58 | 21.5 | 61 | 22.6 | 63 | 23.3 |
| A | 16 | 5.9 | 34 | 12.5 | 23 | 8.5 | 47 | 16.4 |

Table 4.2 shows that English has: “F” with the frequency of 25 while “E” 45, “C” had the largest frequency of 94 and “A” has the least with 16. However, D has 34 and “B” 56 frequency respectively.

In the same vein, “C” has the highest frequency in Biology with 89, followed by “B” 58 almost the same as in English with 56, Grade “F” has the least frequency in Biology with frequency of 15, others are “E” 35, “D” 39, “A” 34

In the case of chemistry, the grade with the highest frequency is “B” with 61 candidates, followed by “C” with 55 frequency, next is “E” with 52, “F” 40 while “D” with 39 and “A” 23 respectively.

In the case of physics, “B” has the highest frequency of 63, followed by “C” with 55, then “A” with the frequency of 47, “E” 43, “D” 35 and finally “F” with the frequency of 27.

The frequencies for the grade points in all the subjects are illustrated using histogram. In the histogram the bars represent the frequencies and the highest bar stands for the grade with the highest frequency while the smallest stands for the lowest frequency.

**Table 4.3: Frequency, Mean and Standard Deviation for Grade Points in English**

| English | Frequency | Percent | Mean | Standard Deviation | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|---|
| F | 25 | 9.3 | 24.0400 | 8.30903 | 9.3 | 9.3 |
| E | 45 | 16.7 | 41.1778 | 1.28433 | 16.7 | 25.9 |
| D | 34 | 12.6 | 46.3824 | 1.25565 | 12.6 | 38.5 |
| C | 94 | 34.8 | 53.5745 | 2.81123 | 34.8 | 73.3 |
| B | 56 | 20.7 | 63.1250 | 2.85442 | 20.7 | 94.1 |
| A | 16 | 5.9 | 5.30409 | 5.30409 | 5.9 | 100.0 |
| Total | 270 | 100.0 | | | 100.0 | |

The table above reveals that A is the highest and best grade in ranking of students in Colleges of Education as indicated in appendix I, followed by B,C,D and then E and finally F which is a zero grade. With reference to the above it therefore implies that grade with the highest frequency in GSE of the Colleges of Education science students performance (Biology, Chemistry and Physics) in this study is “C” with a mean of 53.5745 percentage of 34.8, Std. Dev. of 2.81123 with a total number of 94 candidates out of the entire number of students used for the study. This means

that majority of the students performed on the average followed by “B” with 56 frequency in occurrence, next is “E” with frequency of 45, “F” with frequency of 25 and finally “A” with frequency of 16.

This implies that only very few of the students are excellent in their performance in English language.

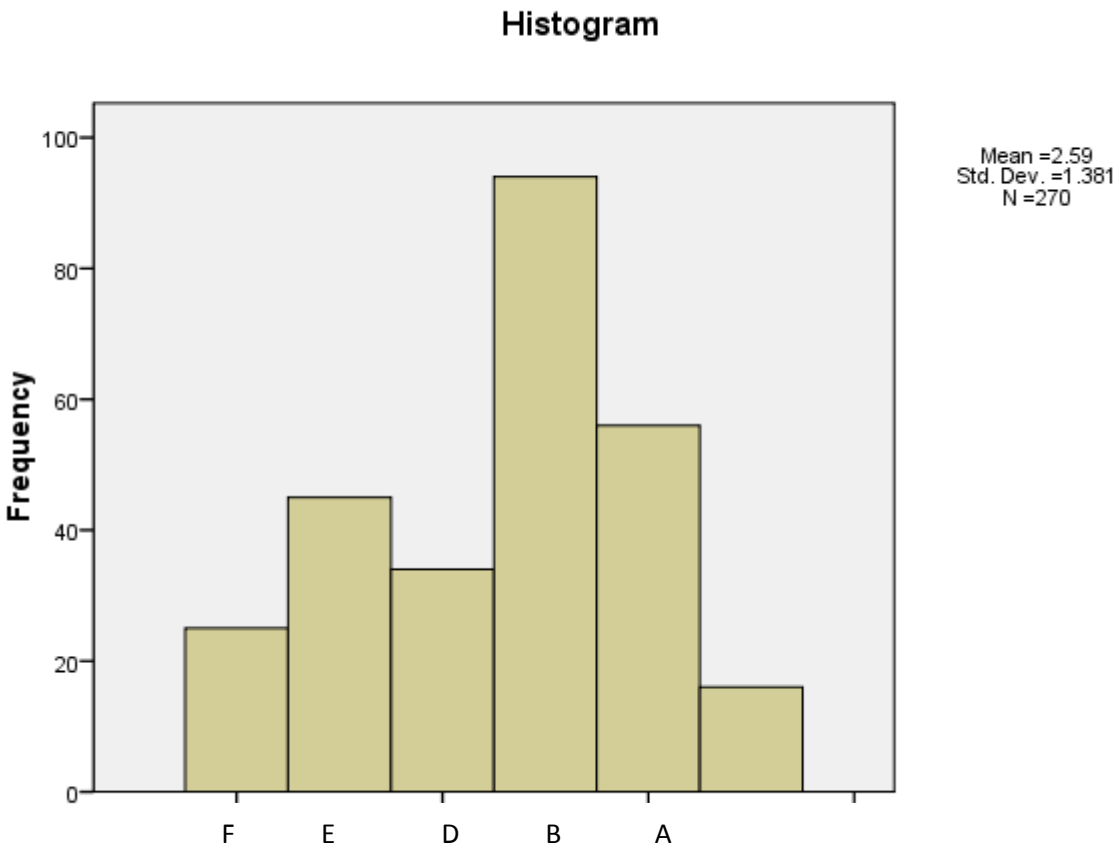



**Chart 1: Histogram for Grade Points in English**

**Table 4.4: Frequency, Mean and Standard Deviation for Grade Points in Biology**

| Biology | Frequency | Percent | Mean | Standard Deviation | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|---|
| F | 15 | 5.6 | 29.1333 | 4.67312 | 5.6 | 5.6 |
| E | 35 | 13.0 | 41.3714 | 1.28534 | 13.0 | 18.5 |
| D | 39 | 14.4 | 46.7692 | 1.32708 | 14.4 | 33.0 |
| C | 89 | 33.0 | 53.3371 | 2.44923 | 33.3 | 65.9 |
| B | 58 | 21.5 | 63.3966 | 2.72055 | 21.5 | 87.4 |
| A | 34 | 12.6 | 75.7941 | 4.58442 | 12.6 | 100.0 |
| Total | 270 | 100.0 | | | 100.0 | |

From the table above, it was revealed that "C" has the highest frequency in students' performance in Biology with a mean of 53.3371, percentage of 33.0, Std. Dev. of 2.44923. This performance in association with students' performance in GSE equally implies that majority of the students are on the average. "B" is the next high frequency of 58, with percentage of 21.5, mean of 63.3966 and Std. Dev. Of 2.72055 "D" has the frequency of 39, percentage of 14.4, mean of 46.7692, and Std. Dev. of 1.32708. On the other hand, "E" has a frequency of 34, mean of 41.3714 and Std. Dev. of 1.28534. "A" has a frequency of 34, percentage of 12.6, mean of 75.7941 and Std. Dev. of 4.58442 that is the best grade. Lastly, "F" has a frequency of 15, 5.6 percentage mean of 29.1333 and Std. Dev. of 4.67312. This implies that fewer students failed the course that is 15% out of the entire 100% of the sample of the population.

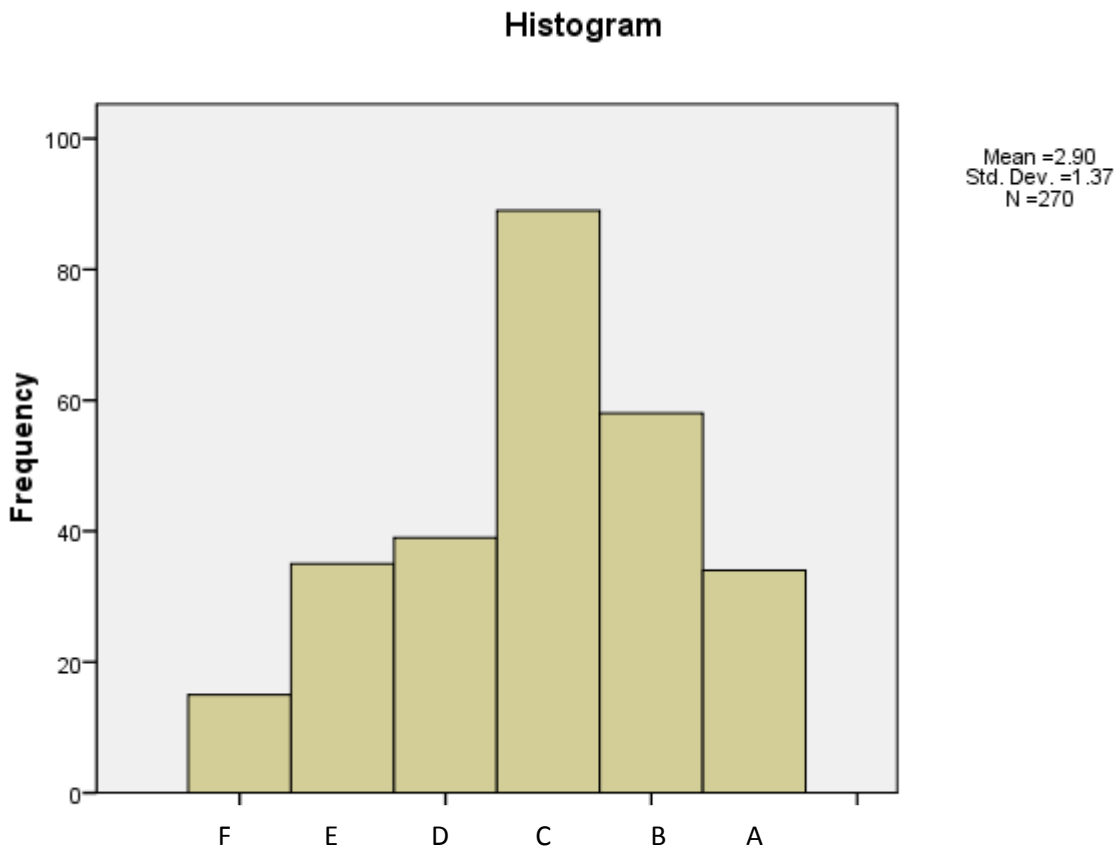



**Chart 2: Histogram for Grade Points in Biology**

**Table 4.5: Frequency, Mean and Standard Deviation for Grade Points in Chemistry**

| Chemistry | Frequency | Percent | Mean | Standard deviation | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|---|
| F | 40 | 14.8 | 25.6750 | 7.16969 | 14.8 | 14.8 |
| E | 52 | 19.3 | 41.2308 | 1.33747 | 19.3 | 34.1 |
| D | 39 | 14.4 | 46.5897 | 1.35176 | 14.4 | 48.5 |
| C | 55 | 20.4 | 46.5897 | 1.35176 | 20.4 | 68.9 |
| B | 61 | 22.6 | 63.2459 | 2.64358 | 22.6 | 91.5 |
| A | 23 | 8.5 | 74.5652 | 5.07960 | 8.5 | 100.0 |
| Total | 270 | 100.0 | | | 100.0 | |

From the table above, it was revealed that "B" has the highest frequency in students' performance in Chemistry with a mean of 63.2459, percentage of 22.6, Std. Dev. of 2.64358. This performance in association with students' performance in GSE

equally implies that majority of the students are on the average. “C” is the next high frequency of 55, percentage of 20.4, mean of 46.5897 and Std. Dev. of 1.35176 “E” has the frequency of 52, percentage of 19.3, mean of 41.2308, and Std. Dev. of 1.33747. On the other hand, “F” has a frequency of 40, percentage of 14.8, mean of 25.6750 and Std. Dev. of 7.16969. “D” has a frequency of 39, percentage of 14.4, mean of 46.5897 and Std. Dev. of 1.35176 Then the best grade, “A” has a frequency of 23, percentage of 8.5, mean of 74.5652 and Std. Dev. of 5.07960. This implies that more students failed the course that is 14.8% out of the entire 100% of the sample of the population.

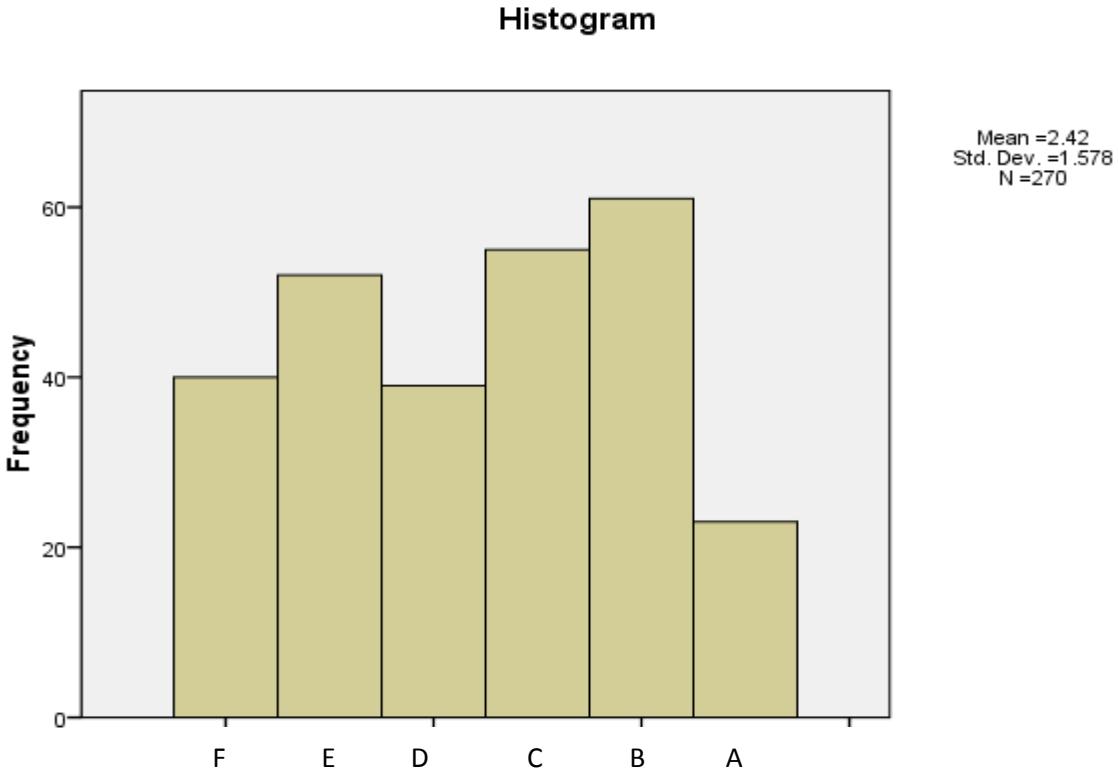



**Chart 3: Histogram for Grade Point in Chemistry**

**Table 4.6: Frequency, Mean and Standard Deviation for Grade Points in Physics**

| Physics | Frequency | Percent | Mean | Standard deviation | Valid percent | Cumulative percent |
|---|---|---|---|---|---|---|
| F | 27 | 10.0 | 26.4444 | 7.02924 | 10.0 | 10.0 |
| E | 43 | 15.9 | 40.8605 | 1.10370 | 15.9 | 25.9 |
| D | 35 | 13.0 | 46.0000 | 1.18818 | 13.0 | 38.9 |
| C | 55 | 20.4 | 52.3636 | 2.40650 | 20.4 | 59.3 |
| B | 63 | 23.3 | 63.4444 | 2.35398 | 23.3 | 82.6 |
| A | 47 | 17.4 | 75.7941 | 4.58442 | 17.4 | 100.0 |
| Total | 270 | 100.0 | | | 100.0 | |

From the table above, it was revealed that "B" has the highest frequency of 63 in students' performance in Physics with a mean of 63.4444, percentage of 23.3, Std. Dev. of 2.35398. This performance in association with students' performance in GSE equally implies that majority of the students are above average at credit level. "C" is the next high frequency of 55, percentage of 20.4, means of 52.3636 and Std. Dev. of 2.40650 i.e the average students. "A" has a frequency of 47, percentage of 17.4, mean of 75.7941 and Std. Dev. of 4.58442 "E" has the frequency of 43, percentage of 15.9, mean of 40.8605, and Std. Dev. of 1.10370. On the other hand, "D" has a frequency of 35,percentage of 13.0, mean of 46.0000 and Std. Dev. of 1.18818. "F" has a frequency of 27, percentage of 10.0, mean of 26.4444 and Std. Dev. of 7.02924. This implies that fewer students failed the course that is 10.0% out of the entire 100% of the sample of the population.

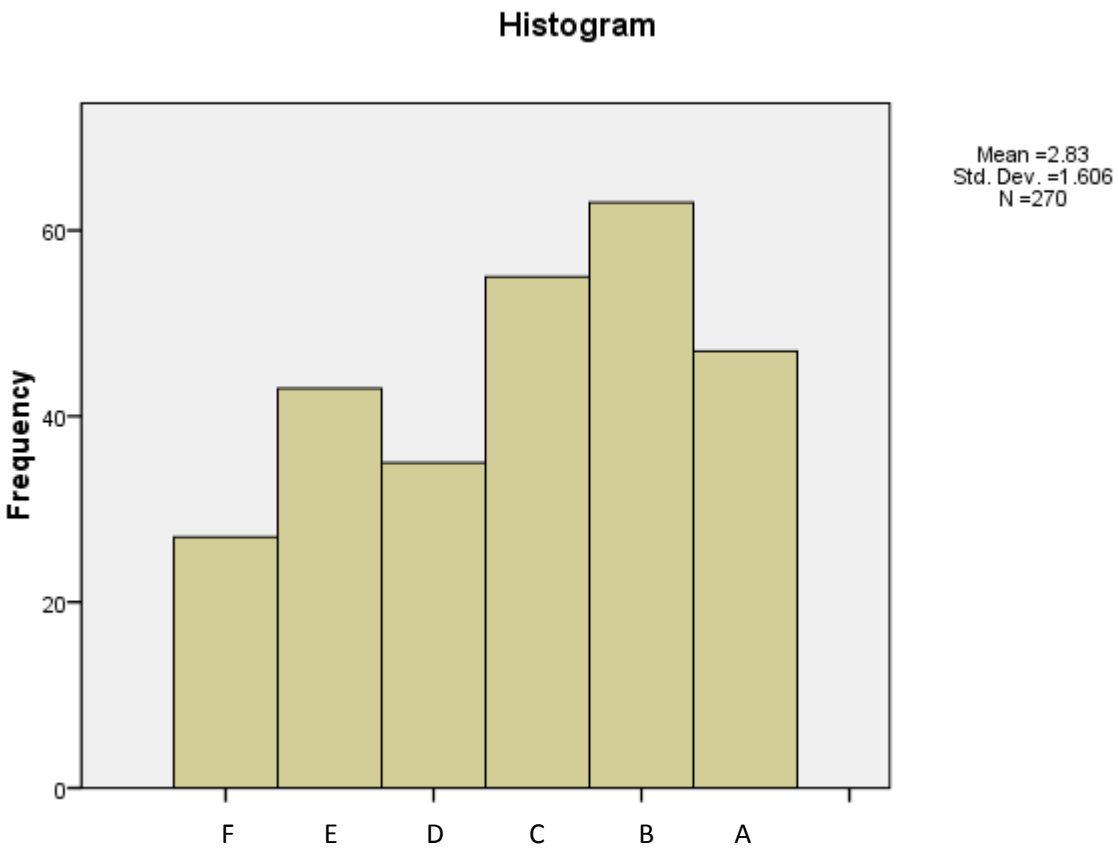



**Chart 3: Histogram for Grade Points in Physics**

### 4.3 Data Analysis

This section was presented in two classifications, solutions to research questions and test of hypotheses.

#### 4.3.1 Solutions to Research Questions

The descriptive statistics existing between General Studies English and any of the science courses was considered in this study and summary of solutions to research questions were presented in tables below

**Research Question 1**: What is the relationship between students' performance in English language and those of Biology in Colleges of Education in Nigeria?

The answer to question 1 above is summarized in Table 4.5 below.

**Table 4.3.1: Descriptive Statistics for** Performance in English and Biology

| Subjects | N | Mean | SD | R |
|---|---|---|---|---|
| English | 270 | 51.03 | 12.728 | 0.052 |
| Biology | 270 | 54.4815 | 12.22701 | |

To determine the degree of relationship between the students' performance in these courses of study, the result of their measure of association as contained in table 4.3.1 revealed that there was very low correlation between students' performance in General Studies English and Biology (R = +0.052).

**Research Question 2**: What is the relationship between students' performance in General Studies English and Chemistry in the Colleges of Education in Nigeria?

The answer to research question 2 above is summarized in Table 4.3.2 below.

**Table 4.3.2: Descriptive Statistics for Performance in English and Chemistry**

| Subjects | N | Mean | SD | R |
|---|---|---|---|---|
| English | 270 | 51.03 | 12.728 | +0.038 |
| Chemistry | 270 | 49.9630 | 14.54740 | |

To provide the solution on the relationship between the students' performance in General Studies English and Chemistry at the colleges of Education in Nigeria, the measure of their association was computed as indicated on table 4.3.2. The Pearson Product Moment R was correlated very low in the two courses (R = +0.038).

**Research Question 3**: What is the relationship between students' performance in General Studies English and in Physics in Colleges of Education in Nigeria?

The answer to research question 3 above is summarized in Table 4.3.3 below.

**Table 4.3.3: Descriptive Statistics for Performance in English language and Biology**

| Subjects | N | Mean | SD | R |
|---|---|---|---|---|
| English | 270 | 51.03 | 12.728 | -0.203** |
| Physics | 270 | 53.7148 | 15.02106 | |

In order to identify the degree of relationship between the students' performance, Pearson product moment correlation was computed as shown on table 4.3.3 The result showed that there was a very low negative association between students' performances in the two courses (R = -0.203).

***Pearson Product Moment R Computed**

***Test of Linearity Computed**

**Research Question 4**: What is the relationship between students' performance in General Studies English language and those of Biology, Chemistry and Physics in Colleges of Education in Nigeria?

The answer to research question 4 above is summarized in Table 4.3.4.

**Table 4.3.4: Measure of Association of Students' performances in the three selected science courses**

| Subjects | Mean | Std. Deviation | N | R |
|---|---|---|---|---|
| English | 51.03 | 12.728 | 270 | - |
| Biology | 54.4815 | 12.22701 | 270 | +0.042 |
| Chemistry | 49.9630 | 14.54740 | 270 | +0.038 |
| Physics | 53.7148 | 15.02106 | 270 | -0.203 |

To find out the possible relationship between the students' performance in General Studies English and their performances in Biology, Chemistry and Physics at the Colleges of Education in Nigeria, the descriptive statistics and measure of association that may be possible between General Studies English and those of Biology, Chemistry and Physics combined indicated on table 4.3.4 revealed a very low negative correlated relationship (R = -.0.203).

### 4.4.1 Testing of Hypotheses

**Hypothesis I**: There is no significant relationship between students' performance in General Studies English and those of Biology in Colleges of Education in Nigeria

This hypothesis was tested by correlating the aggregate mean score of Biology with the General Studies English (GSE) score. The Spearman correlation was used for the test and the result is summarized in Table 4.4.1.

**Table 4.4.1: Spearman's rho Correlation between General Studies English (GSE) Scores and performances in Biology in Colleges of Education**

| Courses | N | Mean | Std. Deviation | Std. Error | r-calc. | r-Crit |
|---|---|---|---|---|---|---|
| GSE | 180 | 56.03 | 12.69 | .772 | 0.034 | .364 |
| Biology | 180 | 59.49 | 12.85 | .782 | | |

Correlation is not significant at the 0.05 level (2-tailed).

The observed correlation coefficient for students' performances in GSE and Biology is statistically not significant since r calc = .034 < r-crit = .364. This means that students who have good performance in General Studies English are not likely to have similar better performance in Biology. With this observation, the null hypothesis that states that there is no significant relationship between students' performance in General Studies English and those of Biology in Colleges of Education in Nigeria is therefore, retained.

Hypothesis II: There is no significant relationship between students' performance in General Studies English and Chemistry in the Colleges of Education in Nigeria.

This hypothesis was tested by relating the scores of the students in General Studies English (GSE) with those of chemistry at the Colleges of Education. The Spearman Correlation was used for the test. The result is summarized in Table 4.4.2.

**Table 4.4.2: Spearman's rho Correlation between General Studies English (GSE) Scores and performances in Chemistry in Colleges of Education**

| Variables | N | Mean | Std. Deviation | Std. Error | r-calc. | r-Crit |
|---|---|---|---|---|---|---|
| GSE | 180 | 56.03 | 12.69 | .772 | 0.002 | .364 |
| Chemistry | 180 | 54.96 | 14.35 | .873 | | |

Correlation is not significant at the 0.05 level (2-tailed).

The result revealed that there was no significant relationship in students' performance in GSE with their performance in Chemistry at the Colleges of Education in Nigeria. The observed non-correlation is noticed as r-calc = 0.002 < r-crit = .364. This observation provides sufficient evidence to retain the null hypothesis that states that there is no significant relationship between students' performance in GSE and their performances in Chemistry at the Colleges of Education in Nigeria.

Hypothesis III: There is no significant relationship between students' performance in General Studies English (GSE) and Physics in Colleges of Education in Nigeria

The result of the Spearman Correlation adopted for establishing the relationship between the students' performance in GSE and their performances in Physics at the Colleges of Education is summarized in Table 4.4.3 below.

**Table 4.4.3: Spearman's rho Correlation between General Studies English (GSE) Scores and performances in Physics in Colleges of Education**

| Variables | N | Mean | Std. Deviation | Std. Error | r-calc. | r-Crit |
|---|---|---|---|---|---|---|
| GSE | 180 | 56.03 | 12.69 | .772 | -226** | .364 |
| Physics | 180 | 58.71 | 15.79 | .961 | | |

** Correlation is significant at the 0.05 level (2-tailed).

The result in table 4.4.3 revealed negative significant relationship between students' performances in GSE and Physics at the Colleges of Education in Nigeria. The observed correlation coefficient r-calc = -226 < r-crit = .364. By this observation, the null hypothesis that states that there is no significant relationship between students' performance in GSE and their performances in Physics at the Colleges of Education in Nigeria is therefore rejected. The implication here is that the students' performance in GSE correlated with their performances in physics but at the negative level.

Hypothesis IV: There is no significant relationship between students' performances in General Studies English (GSE) and those of Biology, Chemistry and Physics in Colleges of Education in Nigeria

The result of the Spearman Correlation adopted for establishing the relationship between the students' performance in GSE and their performances in the Sciences at the Colleges of Education is summarized in Table 4.4.4 below.

**Table 4.4.4: Spearman's rho Correlation between General Studies English (GSE) Scores and performances in Sciences in Colleges of Education**

| Variables | N | Mean | Std. Deviation | Std. Error | r-calc. | r-Crit |
|---|---|---|---|---|---|---|
| GSE | 540 | 56.03 | 12.69 | .772 | -.123** | .043 |
| Sciences | 540 | 158.16 | 23.99 | 1.460 | | |

Correlation is not significant at the 0.05 level (2-tailed).

The indication in the table 4.4.4 is that the performances in GSE and the Sciences were significantly negatively correlated. This is deduced from the observed correlation coefficient of r-calc = -.123 < r-crit = .364. With this observation, there is sufficient evidence to retain the null hypothesis that states that there is no significant relationship between students' performance in GSE and their performances in sciences at the Colleges of Education in Nigeria.

### 4.4 Overall Findings

The overall findings of the study are outlined in this section:

1. The students' performance in GSE had very low relationship with students' performance in Biology at the Colleges of Education in Nigeria. The coefficient of determination for the low correlation R=+0.052which revealed that good performance in GSE did not strongly influence similar performance in Biology and vice versa.
2. The students' performance in GSE had very low relationship with students' performance in Chemistry at the Colleges of Education in Nigeria. The coefficient of determination for the low correlation R=+0.038 which revealed that good performance in GSE did not confer similar influence for students' performance in Chemistry and vice versa.

3. The students' performance in GSE had negative relationship with students performance in Physics at the Colleges of Education in Nigeria. The coefficient of determination for the negative correlation R=0.203 which revealed that good performance in GSE had negative relationship with students' performance in Physics and vice versa.
4. The students' performance in GSE had no relationship with students performance in the sciences combined at the Colleges of Education in Nigeria. The coefficient of determination for the negative correlation R=-0.203 which revealed that good performance in GSE may influence negative relationship for the performance of students in the sciences combined and vice versa.
5. The students' performance in GSE had no significant relationship with students' performance in Biology at the Colleges of Education in Nigeria. The coefficient of determination for the non-significant relationship $r_s$ is .034 which is less than .364; which implied that good performance in GSE did not influence similar performance in Biology and vice versa.
6. The students' performance in GSE had no significant relationship with students' performance in Chemistry at the Colleges of Education in Nigeria. The coefficient of determination for the non-relationship $r_s$ is .002 which is less than .364; which revealed that good performance in GSE did not influence similar performance in Chemistry and vice versa.
7. The students' performance in GSE had a negative significant relationship with students' performance in Physics at the Colleges of Education in Nigeria. The coefficient of determination for the relationship $r_s$ is -226 greater than .364; which implied that a good performance in GSE could cause a poor performance in Physics and vice versa.

8. The students' performance in GSE had a negative significant relationship with students' performance in the sciences combined at the Colleges of Education in Nigeria. The coefficient of determination for the negative correlation r is -.123 greater than .043 which revealed that good performance in GSE was parallel to similar performance in the sciences combined and vice versa.

### 4.5 Analysis of the NCE Students' Written Work Errors

The researcher also collected the scripts of some of the Biology, Chemistry and Physics students and examined their written works, see Appendix IV. The purpose of this is because writing as one of the four language skills is the most used skill in assessing students' performance in virtually all courses in tertiary institutions. The writing skill involves many other sub-skills like the general knowledge about the subject in questions and the ability to translate ideas into grammatical sentences. Rivers (1968:243) argues that any academic writer must meet four major conditions:

> The student must learn: (1) Graphic system of the foreign language; (2) must learn to spell according to the conventions of the language; (3) must learn to control the structure of the language. So that what he writes is comprehensible to readers; and (4) must learn to select form among possible combinations of words and phrases those which will convey the nuances he/she has in mind in the register which is most appropriate.

An effective writing is determined by grammatical corrections (Jekins, Jordan and Weiland, 1993) as syntactic ambivalence leads to semantic ambiguity. By implication, good and meaningful composition goes beyond organization, but he correctness of the grammatical structures; Engeber (1995) cited in Augustine Liach (2012), reiterates that language performance is usually assessed based on its communicability which is a reflection of the presence or absence of errors.

Errors do not totally mar comprehension of a written piece of work but the rules of English grammar are violated. Errors are indispensable in the process of learning and teaching language as they indicate the efforts of the learner in trying to master the target language. However, where the errors are rampant, they may impede the communication goal of the learner or speaker.

The errors in the students' writings/works were identified, categorized into different types. These are:

- Subject verb agreement/concord
- Preposition
- Spelling
- Tense
- Malapropism
- Pronoun misplacement

**Analysis of the Errors (See Appendix III)**

Agreement/Concord

1. Ionic bonding between two elements <u>two elements</u>

   Correct ans = two elements
2. Cations are the ones that <u>loses</u> electrons while anaions <u>gains</u> electrons.

   Ans = ones that lose

   = gain electrons
3. Cambium <u>ring</u> <u>are</u> found = Ans = rings
4. Peridermal tissues <u>covers</u> the volts leaves and stems of plans (Ans cover)
5. Some exp<u>eriment are</u> very dangerous (experiments)
6. It now createO a shield. (creates)
7. This organization has <u>aido</u> in various aspec<u>t</u> of development and amendment of the curriculum

   (Ans ai<u>ded</u> and aspe<u>cts</u>)

A close examination at the errors observed in the students' script reveals that the problem of disagreement between subjects and objects in the sentences may have

been as a result of none mastery of some grammatical structures, inability to distinguish between the singular and plural forms of the verbs and the noun.

**Spelling Error**

- Wether the particles are the same or difference. Noun place in adjective
- Xylem are called complex tissues because the?? composed of to types of cello

Their negative size if they are difference

(The student sued a noun instead an adjective "different" in comparism of ideas).

Incourage = (encourage)

Ataining = (Ans attaining)

**Tense Error**

- They easily dissolved in water (Ans dissolve)
- The methodology which will be use to teach physics

(Ans used)

Here there wrong use of past tense for present tense and the second is the wrong use of present tense for past tense.

**Malapropism**

1. Lateral meristerm, thy composed of all, thy are paralleted to thy each other which thy lies in one another.

In the above sentence apart from the use of "thy" in place of "they" there are other errors of tense e.g composed instead of compose

Paralled to is written "paralleted to"

In general, the sentence is badly constructed.

**Preposition Error**

1. Electron transfer from example metal to non metal (Ans for).

   There was also observation of the use of small letter to begin a proper noun e.g "Galileo".

The errors discussed above are few among other sin the students' written works. The study has shown that the students also as reported by Ayodele (1985) and Yoloye (1965) have problems with almost every aspects of grammar, tense, punctuation, spelling, concord, preposition. The implication of this on students' performance in the sciences are the fact that learning to write well requires time therefore more time should be allotted to writing in all subject areas. One of the reasons why students are not allowed enough time to write creatively and indepth is as a result of large class size which makes teachers restrict their students' length of answers because of the firing nature of making a large class size of students. Other factors are; students lack of interest in reading and writing, the role of learning abilities as well as universal, lack of/inexperience among students.

## 4.5 Discussion

This study correlated Students' performance in GSE with their performances in science subjects (biology, chemistry and physics) in selected Colleges of Education across the six geopolitical zones of Nigeria. Four research questions were answered and four null hypotheses were tested to determine the relationship between the performances in GSE and the combined science subjects of the students.

The Pearson Product Moment correlation computed for the relationship between students' performance in GSE and that in biology had a very low correlation at the Colleges of Education in Nigeria. This correlation implied that good performance in GSE was not all that reliable for similar good performance in Biology and vice versa.

The Spearman correlation used to test the first hypothesis $H_{01}$ for the significant association between students' performances in GSE in Biology at the Colleges of Education in Nigeria showed that there was no significant relationship.

Nonetheless, the result revealed that a low positive linear relationship exists between the two subjects. Students who did very well in Biology were found to have performed slightly well in GSE in the selected colleges of Education. The finding here is a reflection of the position of Balarabe (2008) who asserted that one of the problems of teaching and learning sciences generally including biology is that of language barrier, he stresses that it must not be unconnected with their level of English Language proficiency. Otuka (2006) had similar finding where it was stated that the problem of Language in science teaching and learning is evident at all levels of our educational systems. NCE biology students need English Language for organizing scientific information, learning science with analogies, improving memory in science, structure and function in science, inquiry and research. Biology being one of the sciences is not an exception here. And Lee (2010) suggestion, that performance in biology one of the basic sciences has not been very smooth because science instruction typically has failed to help the English Language learners (ELLS) in ways that are meaningful and relevant to them, while also failing to help them develop proficiency in oral and written English.

The result obtained for the second research question indicated that students' performance in GSE had very low relationship with students' performance in Chemistry at the Colleges of Education in Nigeria. Similarly, a test of the second hypothesis with the Spearman correlation showed a no significant relationship between students' performance in GSE and Chemistry at the Colleges of Education in Nigeria. This implied that the students who performed well in Chemistry may not

necessarily do same in GSE and vice versa at the Colleges of Education. The finding here is a reflection of the reports by Bradley, Brand and Gerrans (1987); VerBeek and Louters, (1991), Herron, (1996)) who respectively stated that the precision of language in chemistry is problematic and that performance of students in chemistry will be affected if teachers use the terms; atoms, molecules and ions indiscriminately and that misconception will invariably be the result. The emphasis here is the proficiency in the language of instruction and learning the subject. The finding here agrees with Kassab (2007) who opined that using language in a new field leads to the raising of students confidence by inducing awareness of the values of transferable skills and knowledge.

It was deduced from the Pearson Product Moment correlation that students' performance in GSE had negative relationship with that in their Physics at the Colleges of Education in Nigeria. This is in line with the findings of Adesoji(2008) who discovered that student' performance in physics is more closely related to their performance in mathematics than in English. All the same, this does not utterly imply that students' performance in English language has no bearing with those of physics. Likewise, the students' performance in GSE had a negative significant relationship with their performance in Physics at the Colleges of Education in Nigeria when hypothesis three was tested with Spearman correlation. This finding agrees with the report of Adegboye (1997), who asserted that English Language plays greater role in other sciences than it does in physics. The finding is in agreement with Itza-ortiz, Rebello, Zollman and Rodriguez-Achach (2004) who reported that students interpret concepts in physics based on everyday meanings and that it is one of the reasons students should be made to be conversant with the vocabulary of physics and the general everyday language, that is the technical and the non-technical vocabulary. The

finding here is contrary to the finding of Wolff (2007) that students learning the concepts of the content subject that are not already shaped by first linguistic items through a foreign language does not pose problem. In emphasizing the negative significance of the relationship between physics and GSE performances, Herr (2007) advocated that science teaching in English as a second language situation should be accompanied by the teaching origin of the root of words. The importance of Herr's advocate is in its enhancement of the understanding of Greek and Latin prefixes, suffixes and roots in scientific terms. This means teachers must not forget that some words being used in English are borrowed from other languages of the world and the knowledge of this is of great importance to the science students to their enablement of the understanding of the body of science. The finding here agrees with the report of Adesoji (2008), from a study in correlation between English Language, Mathematics and students' performance in physics. The study obtained relevance between mathematics and physics but stressed that English language was irrelevant to students' performance in physics.

The study also deduced that students' performance in GSE had no relationship with their performances in the sciences combined at the Colleges of Education in Nigeria. It as well tested the fourth hypothesis with the use of Spearman correlation and the result showed a negative significant relationship between students' performances in GSE and in the sciences combined at the Colleges of Education in Nigeria. This implied that a good performance in the sciences was contrary to such performance in GSE for science students at the Colleges of Education in Nigeria. The finding here agrees with WAEC chief Examiners' Reports: (1997, 1998, 2000, and 2005) also NECO Chief examiners' Report SSCE (2005) where failure and poor performances of students were respectively attributed to different factors especially

students' performance in English language. Many examination reports for instance, associated this to students' inability to communicate ideas logically and effectively to satisfy the demands of the examiners. The finding is in line with Torres and Zeilder (2006) who reported that English language proficiency is significant to students' performance in science standardized tests because they are made up of culturally and linguistically diverse students.

# CHAPTER FIVE

# SUMMARY, IMPLICATIONS, RECOMMENDATIONS AND CONCLUSION

## 5.1 Introduction

In this chapter, the summary of the investigation into the relationship between students' performance in English language and selected science subjects at the Colleges of Education across the six geopolitical zones of Nigeria is presented along with the major findings from the test of the related hypothesis. The chapter equally presents the conclusion, implications and recommendations as well as suggestions for further research based on the findings of the study.

## 5.2 Summary

The study investigated the relationship between students' performance in English language and selected science subjects (Physics, Chemistry and Biology) in the Colleges of Education in Nigeria. Examination of the relationship between the two variables students' performance in English Language and the physics, chemistry and biology was based on an inventory study using existing results of the GSE results of the students and their second year physics, chemistry and biology results at the NCE level of Education. Questions which the study aimed at finding answers to are as follows;

1. What is the relationship between students' performance in English language and their performances in sciences at the Colleges of Education in Nigeria?
2. Does students' performance in GSE have any influence on their performance in Biology at the Colleges of Education in Nigeria?
3. What is the influence of students' performance in English language and their performances in Chemistry at the Colleges of Education in Nigeria?

4 Does students' performance in English language have any relationship with their performances in physics at the Colleges of Education in Nigeria?

The above stated research questions were investigated using four null hypotheses stated in chapter one. The results were analyzed using different statistical procedures. These statistical procedures include: Means and standard deviation, the hypotheses were tested with Pearson product moment correlation procedure.

## 5.3 Summary of Findings

The major findings from the analysis of the data and test of the study's hypotheses are summarized below:

i. Students' performance in GSE is positively correlated with their general performances in sciences at the Colleges of Education though at a low level.

ii. There is a positive and significant relationship between performance of students in Biology at the Colleges of Education and their performance in GSE.

iii. There is a positive and significant relationship between performance of students in Chemistry at the Colleges of Education and their performances in GSE.

iv. The observed significant relationship between students' performance in GSE at the Colleges of Education was not translated to performance in physics.

## 5.4 Implications of Findings

The findings of this study have implications for the teachers of English language, implications for the teachers of other subjects, public examination bodies, curriculum planners as well as text book writers. The implications all point to the fact that second language learners of English, teachers, curriculum planners, textbook authors have roles to play in making the learning of Biology, Chemistry, Physics in the medium of English language a worthwhile venture.

### 5.4.1 Implications for the English Language Teacher

The findings on the relationship between students' performance in English language and selected science subjects show that English language is important to the study of these sciences especially chemistry and Biology. This means that the content of these sciences can be comprehended in the medium of English language. More so, excellent result will be obtained if certain conditions are met. For instance, since English language is a servicing subject to other school subjects, the English language teacher should work in collaboration with teachers of other subject areas to enable them achieve the desired positive result by carrying them along the methods of learning languages beginning from sound perception, recognition and identification in a language. It is this that brings about representation of ideas, thought, feeling and emotions, among others in real life.

Every teacher should deliver their lessons in simple and clear language that will enable students to internalize English language while they are acquiring the academic subjects to avoid swim or sink that is getting confused and losing out completely in class discussions, tests examinations and other activities. The teacher should encourage schools to engage the students in English as second language (ESL) programmes where the science students can acquire English language through diverse activities and drills. In addition, colleges should establish societies and clubs with academic relevance and not just those with social undertones. Examples of such clubs are creative writers club, debating and literary club, press club. It is advisable that English language teachers are made to monitor or head these clubs so that the science students are properly guided in acquiring and developing proficiency through the various activities of these clubs and as well use the skills acquired in rightful situations.

English language teachers should vary their teaching approaches depending on the audience and their purpose of learning the English. Fair Clough (1999) points out that it is perhaps more useful "to conceive of teaching people to think as teaching people to argue" i.e. students should be equipped with the skills of communicating clearly and forcefully enough to convince others of their views over issues and arguments. English language teachers have to note that sophisticated skills of argumentation and persuasion may not readily emerge from the syntactic syllabi or basic functional syllabi evident in most English language class but purposefully planned activities may help this to emerge.

New project based approaches may be found that will give students the opportunities to learn and practice the kinds of analytic problem solving and argumentation that they will need in English language if they are to compete in schools for the better jobs in society i.e.

- Present learning activities in an easy to learn manner.
- Keeping abreast with current trends in language teaching and learning.
- Integrating learning by merging the teaching of the language skills.

### 5.4.2 Implication for Content Subject Teachers

The findings on the relationship between students' performance in English Language and selected science subjects in the colleges of Education in Nigeria indicated that majority of the subjects have bearing with English language. It is a proof that the lecturers expected to have knowledge of language in their fields of specialization. If lecturers are fully equipped with English language skills in their fields of specialization, the lecturers will no doubt guide their students to acquiring the English language skills too for the learning of their courses. The content subject teachers of the sciences should bear in mind the importance of English language

proficiency and reasoning skills which enhance students' abilities to learn science content subject matter better.

This brings to bear the language relevance of needs analysis of the biology, chemistry and physics students and even the science students in general. The English for scientific purposes (ESP) in this context focuses on particular English language use for specialist in sciences which needs to be emphasized. Nevertheless, it has to be noted that these science students with specific reference to biology, chemistry and physics students are not expected to master all systems of English language before they can manipulate it in various uses, guidance and good clues are all they need from their teachers.

*The following therefore are desirable:*

The content teacher and the English as a second language (ESL) teacher deserve collaborative hands to provide excellent instruction especially in reading. For example accelerated instruction that is integrative in nature, engaging as well as rich rather than passive and ordinarily based will be very good for the biology, chemistry and physics students. This equally applies to the entire science students because this will be a very good way of assisting them improve upon their performances both in English and their subject areas.

- English language learners should be given enough opportunities to exercise their skills in the English language. Applying their skills in their subject areas; Biology, Chemistry, Physics and the science students generally will continue to grow in their use of the language English.

  Students need challenge and engagement, the opportunities to participate and show case their talents and skills especially through hand-son skills which is the focus of the whole body of science. Therefore, the support that will enable the

Biology, Chemistry & Physics students participate in measuring their academic life with others should always be made for them.

None of the Biology, Chemistry and Physics students deserve to be given more work than others or exempted from certain exercises and class activities because being at the same level, course and using the same curriculum content, course outline among others, they have equal right and as such should be given equal opportunities.

- Teaching and learning are to be organized and not to be perceived as developmental level of our children and students. A combination of well-organized components that synergistically promote English language literacy while enhancing motivations and engagement should be considered by the content teachers.

### 5.4.3 Implication for the Curriculum Planner

The curriculum planners have to be aware of the trends in language teaching as well as needs of science, biology, chemistry and physics students' in language learning for their success in the sciences. This implies that the contents of these subjects (biology, chemistry and physics) in the science syllabus should have relevance with describing, or explaining of processes, procedures, operations, comparing and contrasting, defining concepts/terminologies, scientific writings and academic writings to either inform, persuade and also give semantic cues of scientific concepts, experimentations and findings to examiners or other readers.

There need to be changes in the curriculum and the requirements for the subjects within it. The change should embrace activities around the learner's environment to enable the biology, chemistry and physics students acquire useful skills towards continues self-improvement in the subject areas of the sciences. More

so, the biology chemistry and physics students need to widen the horizons of their experiences or modify their initial attitudes and values towards a positive life for better performance in their subject areas.

For this study, the following are expected to be integrated into the sciences syllabus of the Colleges of Education in Nigeria; describing and explaining of processes, procedures, operations comparing and contrasting of examples, methods, models defining terminologies/concepts, review of literature of sciences writings, academic writings generally such as seminar papers, writing of references, footnotes, bibliographies and abstracts. This is to prepare the biology, chemistry and physics students in the Colleges of Education against work life on graduation. Where ever the science students may be, if what they have learnt in school must be fruitful, the science students will continue with scientific reasoning practices in their work life.

## 5.5 Recommendations

The study has the following recommendations to make in respect of the performance of the science students in their subject areas and English language in Colleges of Education.

1. The content teachers of the NCE physics, chemistry and Biology students should assist these students by focusing not only on their content areas but also on the English language to use to learn the subjects for success. This they can do by correcting or pointing out their English Language errors in Biology, Chemistry and Physics written works and even in spoken English of these students.
2. The point that learning takes place more if what is learned is of benefit to the learners; means that science teachers should assign to students tasks that have direct relevance to their fields of study. These include tasks that will make

them exercise their skills of analysis, application, synthesis and comprehension in English language bearing in mind cognitive academic language proficiency.

3. The fact that physics, chemistry and biology deal with hands-on approach science teachers should adopt student centred approach in their teachings to enable the students participate fully and as well express areas of difficulties during the science learning process. Involvement of students in activities will make them get used to the use of English language for purposive and situational aim because they will need to ask questions, answer some questions too where need be both in class and other related environments with relevance to the sciences and also contribute to activities and exercises in their subject areas.

4. Skills such as descriptions, explanation, logical presentation of ideas, summarizing and other skills are important in mastering of the science subjects. It is the English language teachers' responsibility to focus on these while teaching.

5. English language teachers should note the importance of the feedback they give students with respect to their written work. Students will improve on their performances generally if they are encouraged by the feedback they receive from their teachers. If science students are given encouraging feedback in the English language class, they will be willing to improve on their performances.

6. Second language learning is different from first language acquisition. The content subject teacher should always work in collaboration with the English language teacher to see that they keep abreast with modern trends in language learning. The content teacher learns current trends in English language from

the English language teacher to enable him boost his students' performance for instance on the area of the use of new words, use of scientific expressions and even eclecticism in teaching and learning situation.

7. The collaborative work of the subject teacher and the English language teachers should not be allowed to be one sided. The English language teachers can equally learn from the content subject teacher things like registers and special use of certain structures relevant in the teaching of sciences. The science teachers can learn correct use of words and expressions from the English language teachers.

8. To increase the science teachers' input in the NCE area of education. It is necessary the Colleges of Education lecturers in sciences and even other subject areas are given thorough training in their subject areas and areas of knowledge application. In the training process the need for them to be informed of new directions in the teaching of English language and their various areas of specialization is very important.

9. The work of the English language teacher can be made easy and more enjoyable if the college authority educates the students about the importance of general courses of which English language is a part. The authority should show interest in the courses and appreciate the work of the teachers. This can be shown thus:

    i. The authority should always provide necessary teaching materials that will make the work of the teachers easy.
    ii. The authorities should see to the sponsorship of teachers' conferences, seminars and workshops for more knowledge acquisition and interaction with colleagues on new trends in their fields.

iii. Things like on the job training of teachers too is another way of boosting their moral and performance and this encourages them to work better .The library should be stocked with relevant texts as reference materials for both staff and students in English and sciences and even other subject areas.

10. Textbooks writers should make text written exercises relevant to learners. This can be achieved by including written exercises based on syllabus reviews done on this area.

## 5.6 Contribution of the Study to Knowledge

There have been diverse studies by different researchers in the field of education on the performance of students with reference to English language proficiency. However, some of these studies were based on empirical studies. The present study is based on inventory of students' performance in English language and its relationship with physics, chemistry and biology at the NCE level of education in Nigeria.

This study did not only focus on the relationship between students' performance in physics, chemistry and biology ,but also tried to look at other relevant skills of language such as cognitive academic language proficiency skills, inquiry skills narrative and analysis skills that bring success in learning of science subjects of the curriculum in the medium of English language. It has discussed more on students' performance with relevance to English language, physics, chemistry and biology as an inventory. It has established the fact that students especially science students in ESL situation can only be proficient in English through the acquisition of Cognitive Academic Language Proficiency skills (CALP). It has equally been able to bring out the relevance of materials in teaching abstract topics in the sciences.

In general, it has been discovered that sciences deal with more abstract things than real or physical materials specifically physics and chemistry. While chemistry

deals with recreation of nature by the use of chemical substances and matter this makes the language focus more on formation and symbols. Physics deals with energy, power, circuit, temperature, force among others and their applications to the issues of life. The language of physics is equally unique and abstract which makes its' study sometimes confusing but for the practical nature of it, it is easily applied.

## 5.7 Limitations of the Study

The limitation of this study is based on its focus on the NCE students of the sciences exclusively. It is not possible therefore to generalize the findings including students in other subject areas example Vocations, Education and even Arts and Social Sciences or even other subjects of the Sciences, Example, Computer, Integrated Science, Mathematics etc.

Another limitation is the focus of the study specifically on English language. Based on this therefore, one cannot generalize. The remaining factors determinants of students' performance could be areas for further study/research Example, environment, teaching materials, students' attitude and teachers' qualification, home background, teaching method, multilingualism and bilingualism.

## 5.8 Conclusion

English language in Nigerian school system and the society at large no doubt plays a very crucial role. It is very important that this language is effectively taught and learned. The achievement of this goal is based on the committed attitude of the teachers, learners and even members of the society as well as the concerned authorities. Performance in education generally is very important because it is this that determines the place of the graduates in the labour market and the placement of the country's development worldwide.

The English language and content subject teachers in Colleges of Education need to assist students at the NCE level to develop their skills in English language for competence and proficiency. High standard of language habit is very crucial here.

## 5.9 Suggestions for Further Research

The study concentrated solely on English language and students' performance in Physics, Chemistry and Biology of the NCE students. A similar study could be carried out on other factors like Students' attitude, teachers' personality and qualification, environmental influence and other students in similar research institutions for instance Polytechnics could be used.

In addition, this work dealt exclusively with Physics, Chemistry and Biology students. It shall be good when another person conducts a similar study using the vocational students' example Agricultural Science, Fine and Applied Arts or even Home Economics. Nevertheless, the same study could be conducted in the Arts and Social Sciences of the NCE level of Education.

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## APPENDIX 1

**Table 4.1: Scores of Courses selected for the Study**

| Eng | Bio | Chem | Phy |
|---|---|---|---|
| 73 | 78 | 65 | 41 |
| 40 | 34 | 53 | 43 |
| 55 | 60 | 40 | 22 |
| 77 | 65 | 45 | 50 |
| 60 | 43 | 61 | 52 |
| 54 | 63 | 54 | 40 |
| 48 | 54 | 73 | 54 |
| 65 | 59 | 42 | 20 |
| 51 | 65 | 73 | 40 |
| 48 | 32 | 63 | 44 |
| 56 | 68 | 70 | 54 |
| 64 | 69 | 54 | 67 |
| 59 | 28 | 84 | 45 |
| 65 | 55 | 61 | 51 |
| 50 | 47 | 83 | 61 |
| 74 | 57 | 70 | 41 |
| 65 | 47 | 51 | 41 |
| 66 | 23 | 42 | 46 |
| 52 | 48 | 74 | 50 |
| 46 | 76 | 59 | 45 |
| 51 | 60 | 67 | 45 |
| 42 | 82 | 56 | 45 |
| 22 | 63 | 70 | 73 |
| 71 | 53 | 62 | 25 |
| 49 | 60 | 53 | 26 |
| 63 | 54 | 40 | 52 |
| 75 | 61 | 65 | 19 |
| 73 | 77 | 40 | 40 |
| 92 | 55 | 57 | 57 |
| 68 | 72 | 47 | 23 |
| 59 | 52 | 25 | 45 |
| 52 | 51 | 45 | 63 |
| 50 | 52 | 21 | 31 |
| 41 | 51 | 51 | 41 |
| 22 | 41 | 23 | 50 |
| 60 | 53 | 60 | 51 |
| 70 | 47 | 64 | 57 |
| 55 | 46 | 50 | 47 |
| 41 | 46 | 40 | 48 |
| 46 | 52 | 45 | 48 |
| 50 | 51 | 28 | 48 |

| | | | |
|---|---|---|---|
| 57 | 27 | 45 | 41 |
| 61 | 52 | 41 | 53 |
| 20 | 52 | 61 | 55 |
| 41 | 41 | 18 | 72 |
| 45 | 46 | 41 | 56 |
| 71 | 52 | 47 | 55 |
| 55 | 52 | 40 | 50 |
| 51 | 62 | 40 | 63 |
| 50 | 46 | 60 | 45 |
| 41 | 61 | 50 | 52 |
| 40 | 47 | 51 | 40 |
| 50 | 51 | 11 | 70 |
| 48 | 46 | 62 | 40 |
| 51 | 46 | 57 | 53 |
| 46 | 61 | 40 | 45 |
| 45 | 46 | 62 | 76 |
| 48 | 61 | 63 | 40 |
| 61 | 51 | 11 | 48 |
| 42 | 41 | 56 | 40 |
| 51 | 51 | 53 | 61 |
| 42 | 71 | 62 | 62 |
| 40 | 41 | 48 | 67 |
| 21 | 40 | 47 | 51 |
| 54 | 73 | 60 | 73 |
| 60 | 63 | 73 | 46 |
| 42 | 60 | 41 | 77 |
| 51 | 51 | 43 | 61 |
| 44 | 41 | 51 | 72 |
| 40 | 50 | 73 | 64 |
| 52 | 41 | 64 | 50 |
| 27 | 52 | 43 | 63 |
| 40 | 35 | 61 | 61 |
| 71 | 60 | 40 | 55 |
| 43 | 73 | 63 | 51 |
| 52 | 55 | 63 | 50 |
| 53 | 41 | 64 | 41 |
| 47 | 50 | 34 | 60 |
| 50 | 40 | 50 | 63 |
| 44 | 41 | 50 | 77 |
| 37 | 78 | 46 | 41 |
| 46 | 42 | 51 | 52 |
| 11 | 43 | 53 | 61 |
| 60 | 46 | 78 | 63 |
| 52 | 53 | 63 | 41 |
| 21 | 50 | 31 | 64 |

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|---|---|---|---|
| 51 | 51 | 60 | 65 |
| 15 | 48 | 53 | 47 |
| 63 | 31 | 84 | 61 |
| 41 | 53 | 67 | 65 |
| 55 | 63 | 56 | 40 |
| 42 | 55 | 65 | 64 |
| 71 | 89 | 61 | 43 |
| 51 | 36 | 45 | 64 |
| 50 | 62 | 58 | 68 |
| 45 | 70 | 58 | 52 |
| 42 | 61 | 54 | 46 |
| 40 | 28 | 16 | 40 |
| 70 | 70 | 24 | 12 |
| 72 | 66 | 62 | 65 |
| 60 | 71 | 73 | 52 |
| 50 | 54 | 66 | 50 |
| 65 | 52 | 58 | 45 |
| 40 | 40 | 54 | 64 |
| 41 | 60 | 40 | 11 |
| 41 | 45 | 18 | 63 |
| 56 | 61 | 29 | 40 |
| 47 | 40 | 50 | 63 |
| 60 | 50 | 27 | 40 |
| 40 | 73 | 44 | 81 |
| 45 | 34 | 45 | 54 |
| 54 | 63 | 50 | 60 |
| 45 | 64 | 61 | 77 |
| 60 | 40 | 45 | 25 |
| 50 | 30 | 48 | 72 |
| 50 | 65 | 35 | 52 |
| 47 | 72 | 53 | 72 |
| 45 | 69 | 48 | 66 |
| 73 | 67 | 50 | 50 |
| 45 | 81 | 71 | 60 |
| 63 | 49 | 43 | 71 |
| 58 | 57 | 42 | 50 |
| 43 | 51 | 35 | 77 |
| 57 | 52 | 41 | 62 |
| 61 | 52 | 55 | 40 |
| 69 | 49 | 60 | 70 |
| 40 | 46 | 77 | 72 |
| 59 | 41 | 43 | 26 |
| 64 | 53 | 29 | 55 |
| 53 | 51 | 69 | 51 |
| 69 | 55 | 26 | 51 |

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| 64 | 50 | 42 | 41 |
| 73 | 47 | 57 | 43 |
| 65 | 50 | 60 | 41 |
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| 52 | 69 | 32 | 30 |
| 67 | 47 | 47 | 60 |
| 43 | 54 | 29 | 46 |
| 57 | 63 | 34 | 46 |
| 46 | 51 | 48 | 41 |
| 45 | 52 | 64 | 67 |
| 56 | 49 | 40 | 53 |
| 55 | 54 | 42 | 46 |
| 47 | 64 | 48 | 45 |
| 55 | 63 | 29 | 74 |
| 65 | 47 | 54 | 20 |
| 57 | 56 | 51 | 24 |
| 55 | 49 | 43 | 46 |
| 61 | 45 | 62 | 46 |
| 37 | 45 | 86 | 48 |
| 42 | 52 | 40 | 64 |
| 48 | 43 | 15 | 66 |
| 58 | 55 | 23 | 81 |
| 61 | 21 | 40 | 82 |
| 20 | 64 | 45 | 83 |
| 50 | 41 | 20 | 78 |
| 24 | 49 | 40 | 69 |
| 48 | 43 | 43 | 66 |
| 61 | 56 | 56 | 74 |
| 41 | 70 | 73 | 30 |
| 61 | 64 | 50 | 59 |
| 66 | 58 | 56 | 77 |
| 68 | 45 | 67 | 60 |
| 60 | 52 | 61 | 73 |
| 46 | 56 | 62 | 47 |
| 58 | 47 | 50 | 50 |
| 46 | 54 | 60 | 40 |
| 53 | 53 | 71 | 37 |
| 32 | 58 | 70 | 78 |
| 28 | 56 | 70 | 61 |
| 40 | 65 | 60 | 70 |
| 50 | 47 | 45 | 74 |
| 47 | 57 | 48 | 74 |
| 50 | 54 | 52 | 45 |
| 54 | 48 | 68 | 53 |
| 58 | 53 | 45 | 45 |

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| 61 | 52 | 60 | 36 |
| 65 | 50 | 58 | 27 |
| 32 | 63 | 63 | 60 |
| 35 | 53 | 65 | 70 |
| 54 | 24 | 30 | 64 |
| 57 | 53 | 60 | 50 |
| 50 | 43 | 58 | 28 |
| 61 | 60 | 62 | 43 |
| 60 | 52 | 68 | 80 |
| 61 | 50 | 60 | 42 |
| 65 | 57 | 40 | 32 |
| 68 | 30 | 46 | 61 |
| 40 | 45 | 45 | 43 |
| 56 | 42 | 40 | 50 |
| 52 | 55 | 64 | 45 |
| 55 | 40 | 48 | 46 |
| 67 | 64 | 65 | 41 |
| 58 | 53 | 22 | 62 |
| 41 | 24 | 50 | 45 |
| 15 | 41 | 45 | 24 |
| 57 | 40 | 48 | 41 |
| 48 | 53 | 40 | 70 |
| 50 | 42 | 21 | 45 |
| 54 | 47 | 40 | 26 |
| 52 | 44 | 44 | 67 |
| 52 | 61 | 68 | 65 |
| 53 | 75 | 70 | 20 |
| 66 | 68 | 49 | 36 |
| 70 | 53 | 41 | 50 |
| 54 | 75 | 47 | 39 |
| 60 | 63 | 47 | 31 |
| 53 | 44 | 43 | 89 |
| 53 | 45 | 42 | 65 |
| 55 | 48 | 44 | 34 |
| 60 | 42 | 40 | 70 |
| 65 | 43 | 42 | 67 |
| 50 | 82 | 63 | 40 |
| 50 | 50 | 67 | 67 |
| 55 | 72 | 41 | 62 |
| 45 | 72 | 50 | 40 |
| 65 | 74 | 62 | 64 |
| 50 | 67 | 43 | 55 |
| 45 | 75 | 48 | 76 |
| 65 | 40 | 40 | 40 |
| 48 | 76 | 68 | 63 |

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| 55 | 62 | 47 | 45 |
| 40 | 61 | 51 | 66 |
| 65 | 66 | 47 | 63 |
| 60 | 66 | 48 | 40 |
| 55 | 43 | 62 | 53 |
| 65 | 40 | 73 | 45 |
| 60 | 70 | 45 | 40 |
| 60 | 64 | 63 | 52 |
| 55 | 47 | 51 | 72 |
| 40 | 83 | 67 | 40 |
| 50 | 79 | 66 | 61 |
| 55 | 61 | 68 | 61 |
| 40 | 50 | 64 | 52 |
| 60 | 56 | 76 | 40 |
| 50 | 45 | 62 | 53 |
| 45 | 62 | 42 | 75 |
| 65 | 60 | 48 | 75 |
| 40 | 45 | 40 | 70 |
| 60 | 72 | 45 | 50 |
| 40 | 52 | 48 | 78 |
| 30 | 80 | 58 | 52 |
| 34 | 67 | 32 | 60 |
| 55 | 47 | 28 | 50 |
| 46 | 52 | 36 | 83 |
| 23 | 58 | 23 | 86 |
| 26 | 79 | 51 | 50 |
| 53 | 56 | 31 | 70 |
| 55 | 53 | 10 | 62 |
| 59 | 61 | 27 | 72 |
| 59 | 65 | 40 | 70 |
| 42 | 40 | 19 | 50 |
| 27 | 54 | 50 | 59 |
| 25 | 56 | 50 | 49 |
| 44 | 56 | 33 | 42 |
| 56 | 78 | 26 | 67 |
| 55 | 79 | 41 | 70 |
| 5 | 57 | 58 | 40 |
| 51 | 62 | 50 | 55 |
| 40 | 60 | 40 | 65 |
| 40 | 59 | 28 | 64 |
| 43 | 64 | 53 | 62 |
| 55 | 57 | 38 | 55 |

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| 41 | 66 | 41 | 46 |
| 46 | 40 | 56 | 65 |
| 40 | 50 | 41 | 63 |
| 57 | 80 | 48 | 87 |
| 53 | 69 | 50 | 82 |
| 53 | 58 | 46 | 41 |
| 12 | 54 | 43 | 64 |

## APPENDIX II

## Colleges of Education in the Country: Type and their Locations

| S/N | College | Type | Location |
|---|---|---|---|
| 1 | Federal College of Education (Technical), Asaba | Federal College of Education | Asaba, Delta State. |
| 2 | Federal College of Education, Kano | Federal College of Education | Kano City, Kano State. |
| 3 | Federal College of Education (Special), Oyo | Federal College of Education | Oyo, Oyo State. |
| 4 | College of Education, Gindiri | State College of Education | Gindiri, Plateau State. |
| 5 | Adamawa State College of Education, Hong | State College of Education | Yola, Adamawa State. |
| 6 | Tai Solarin College of Education, Ijebu-Ode | State College of Education | Ijebu-Ode, Ogun State. |
| 7 | College of Education, Ikere-Ekiti | State College of Education | Ikere-Ekiti, Ekiti State. |
| 8 | Ebonyi State College of Education, Ikwo | State College of Education | Ikwo, Ebonyi State. |
| 9 | College of Education, Warri | State College of Education | Warri, Delta State. |
| 10 | FCT College of Education, Zuba | State College of Education | Zuba, Garki, FCT Abuja. |
| 11 | Institute of Ecumenical Education, (Thinkers Corner), Enugu | Private College of Education | Enugu, Enugu State. |
| 12 | Osisatech College of Education, Enugu | State College of Education | Enugu, Enugu State. |
| 13 | Delar College of Education | Private College of Education | Agodi Gate, Ibadan, Oyo State |

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|---|---|---|---|
| 14 | Federal College of Education, Abeokuta | Federal College of Education | Abeokuta, Ogun State |
| 15 | Federal College of Education, Eha-Amufu | Federal College of Education | Eha Amufu, Enugu State. |
| 16 | Federal College of Education (Technical), Gombe | Federal College of Education | Gombe, Gombe State. |
| 17 | Federal College of Education, Kontagora | Federal College of Education | Kontagora, Niger State. |
| 18 | Federal College of Education, Okene | Federal College of Education | Okene, Kogi State. |
| 19 | Federal College of Education (Technical), Omoku | Federal College of Education | OMoku, Rivers State. |
| 20 | Federal College of Education (Tech), Potiskum | Federal College of Education | Potiskum, Yobe State |
| 21 | Nasarrawa State College of Education, Akwanga | State College of Education | Akwanga, Nassarawa State. |
| 22 | Isa Kaita College of Education, Dutsin-Ma | State College of Education | Dutsin-Ma, Katsina State. |
| 23 | College of Education, Ekiadolor-Benin | State College of Education | Ekiadolor-Benin, Edo State |
| 24 | College of Education, Gashua, Damaturu | State College of Education | Gashua, Yobe state. |
| 25 | Kaduna State College of Education, Gidan-Waya, Kafanchan | State College of Education | Kafanchan, Kaduna State. |
| 26 | Osun State College of Education, Ilesa | State College of Education | Ilesa, Osun State. |
| 27 | Kwara State College of Education, Ilorin | State College of Education | Ilorin, Kwara State. |

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|---|---|---|---|
| 28 | Kwara State College of Education | State College of Education | Oro, Kwara State. |
| 29 | College of Education, katsina-Ala | State College of Education | Katsina-Ala, Benue State. |
| 30 | Kano State College of Education, Kumbotso | State College of Education | Kumbotso, Kano State. |
| 31 | College of Education (Technical), Lafiagi | State College of Education | Lafiagi, Kwara State. |
| 32 | Nwafor Orizu College of Education, Nsugbe | State College of Education | Nsugbe, Anambra State. |
| 33 | Adeniran Ogunsanya College of Education, Otto/Ijanikin | State College of Education | Otto/Ijanikin, Lagos State. |
| 34 | Alvan Ikoku College of Education, Owerri | Federal College of Education | Owerri, Imo State. |
| 35 | Oyo State College of Education, Oyo | State College of Education | Oyo, Oyo State. |
| 36 | College of Education, Waka BIU | State College of Education | Waka BIU, Borno State. |
| 37 | St. Augustine College of Education (Project Time), Lagos | State College of Education | Yaba, Lagos State. |
| 38 | City College of Education, Mararaba, Gurku | Private College of Education | Mararaba, Gurku, Nasarawa Stat |
| 39 | Federal College of Education (Technical), Akoka | Federal College of Education | Akoka, Lagos State. |
| 40 | Federal College of Education (Technical), Bichi | Federal College of Education | Bichi, Kano State |
| 41 | Federal College of Education (Technical), Gusau | Federal College of Education | Gusau, Zamfara State. |

| | | | |
|---|---|---|---|
| 42 | Federal College of Education, Katsina | Federal College of Education | Katsina, Katsina State. |
| 43 | Federal College of Education, Obudu | Federal College of Education | Obudu, Cross River State. |
| 44 | Adeyemi College of Education, Ondo | Federal College of Education | Ondo, Ondo State. |
| 45 | Federal College of Education, Pankshin | Federal College of Education | Pankshin, Plateau State. |
| 46 | Federal College of Education, Yola | Federal College of Education | Yola, Yola State. |
| 47 | Delta State College of Education, Agbor | State College of Education | Agbor, Delta State |
| 48 | Federal College of Education, Zaria. | Federal College of Education | Zaria, Kaduna State. |
| 49 | Akwa Ibom State College of Education, Afahansit | State College of Education | Afahansit, Akwa Ibom State. |
| 50 | Kogi State College of Education, Ankpa | State College of Education | Ankpa, Kogi state. |
| 51 | Adamu Augie College of Education, Argungu | State College of Education | Argungu, Kebbi State. |
| 52 | College of Education, Azare | State College of Education | Azare, Bauchi State |
| 53 | Umar Ibn Ibrahim El-Kanemi College of Education, Science and Technology, Bama | State College of Education | Bama, Borno State. |
| 54 | Nigerian Army School of Education (NASE), Ilorin | Federal College of Education | Ilorin, Kwara State. |
| 55 | College of Education, Jalingo | State College of Education | Jalingo, Taraba State. |
| 56 | Zamfara State College of Education, Maru | State College of Education | Maru, Zamfara State. |

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|---|---|---|---|
| 57 | Jigawa State College of Education, Gumel | State College of Education | Gumel, Jigawa State. |
| 58 | Niger State College of Education, Minna | State College of Education | Minna, Niger State. |
| 59 | Rivers College of Education, Rumuolumeni | State College of Education | Port-harcourt, Rivers State. |
| 60 | Shehu shagari College of Education, Sokoto | State College of Education | Sokoto, Sokoto State. |
| 61 | Jama'Atu College of Education (JACE), Kaduna | State College of Education | Kaduna, Kaduna State. |
| 62 | Ansar-Ud-Deen College of Education, Isolo | Private College of Education | Oshodi, Isolo, Lagos State. |
| 63 | Yewa Central College of Education, Ayetoro | State College of Education | Ayetoro, Ogun State. |

## APPENDIX III

Ionic bonding between two element instead of elements = plural use error

**1.** Electron transfer from e.g

**2.** Wether spelling error

**3.** The particles are the same or difference

**4.** Their negative size if they are difference

**5.** They easily dissolved in water

**6.** a. they do not conduct electricity.

b. electron affinity

8. a. Cations are the ions that loses electrons while anaions gains electrons.

b. This ions

**Analysis**

Example I above

1 Plural formation error "element" instead of "elements"

**1.** Misuses of preposition "from" instead of "of" e.g electron transfer for e.g not from e.g

**2.** Spelling error wether in place of whether.

**3.** a. The use of noun in place of adjective e.g The Particles are the same or "difference" instead of "different"

b. Their negative size if they are difference instead of "different".

5. Easily dissolved in water misuse of tense dissolved in place of dissolve.

6. a. They do not conduct electricity

b. Electron affinity they begin sentences with small letters instead of capital letters.

7. Cations are the ones that loses electrons while anaions gains electrons.

Error of agreement i.e subject verb agreement ones = lose not loses anaious gains not gains.

**The students' problems are:**

= Plural observation problem

= Misuse of preposition

= Spelling errors

= Use of noun in place of adjective

= Misuse of tense

= Beginning sentences with small letters.

= Error of agreement

**Analysis of the NCE Biology Students Errors in Writing.**

1. peridermal tissues covers the roots, leaves and stems of plants.

2. xylem are called complex tissues because they composed of to types of cell.

3a. Which thy aid in transport in all parts of plant.

b. lateral meristerm thy composed of cell, thy are paralleled to thy each other which thy lies on one another.

c. Cambum ring is a that division that are responsible for secondary growth.

4. meristerm tissues are tissues that has loss their power of dividing as a result of ataing a definite size, shape or form.

5. Peridermal tissues covers the outer layer of plant.

6 a. Xylem is called complex tissues because it consist of more than one cell which include the vessel and the trachiand

**b.** It division leads to

c. Cambium ring are found.

1. Peridermal tissues cover the roots, leaves and stems of plants.

2. Xylem are called complex tissues because thy compose of two types of cells.

3. a. Which they aid in transport in all parts of plants.

b. lateral meristerm composes of cells that are parallel to each other and lie on one another.

c. Coambium rings are those divisions that are responsible for secondary growth.

4a. Meristern tissues are (those) tissues that have lost their power of division as a result of attaining a definite size, shape or form.

b. Perideermal tissues cover the outer layer of plant parts such as

5a. Xylem is called complex tissue because it consists of more than one cell which includes the vessel and trachiand.

b. Its division leads to

c. Cambium rings are found.

**The Students' Problem Areas**

- Subject verb agreement
- Misuses of tenses.
- Misspelling of pronounced words may be as a result of lack of awareness of the exert pronunciation of words.
- Poor grammatical structure.

**Sample of an "F" Candidate Write Up**

Xylems are called complex tissues because they composed of types of cell which are rachied and non-vessel which they aid in transport in all part of plant.

Peridermal tissues covers the root, leaves and sterms of plant (dermal tissue)

Lateral meristerm they composed of cell thy are paralled to they each other which thy lies on one another.

**Chemistry Students**

- Ions solid are formed through electron transfer from e.g
- Ionic solids are the chemical compounds that are formed by a electrovalent bonding.
- The force of attraction between the particles, wether the particles are the same or difference.
- Their active size if they are difference.

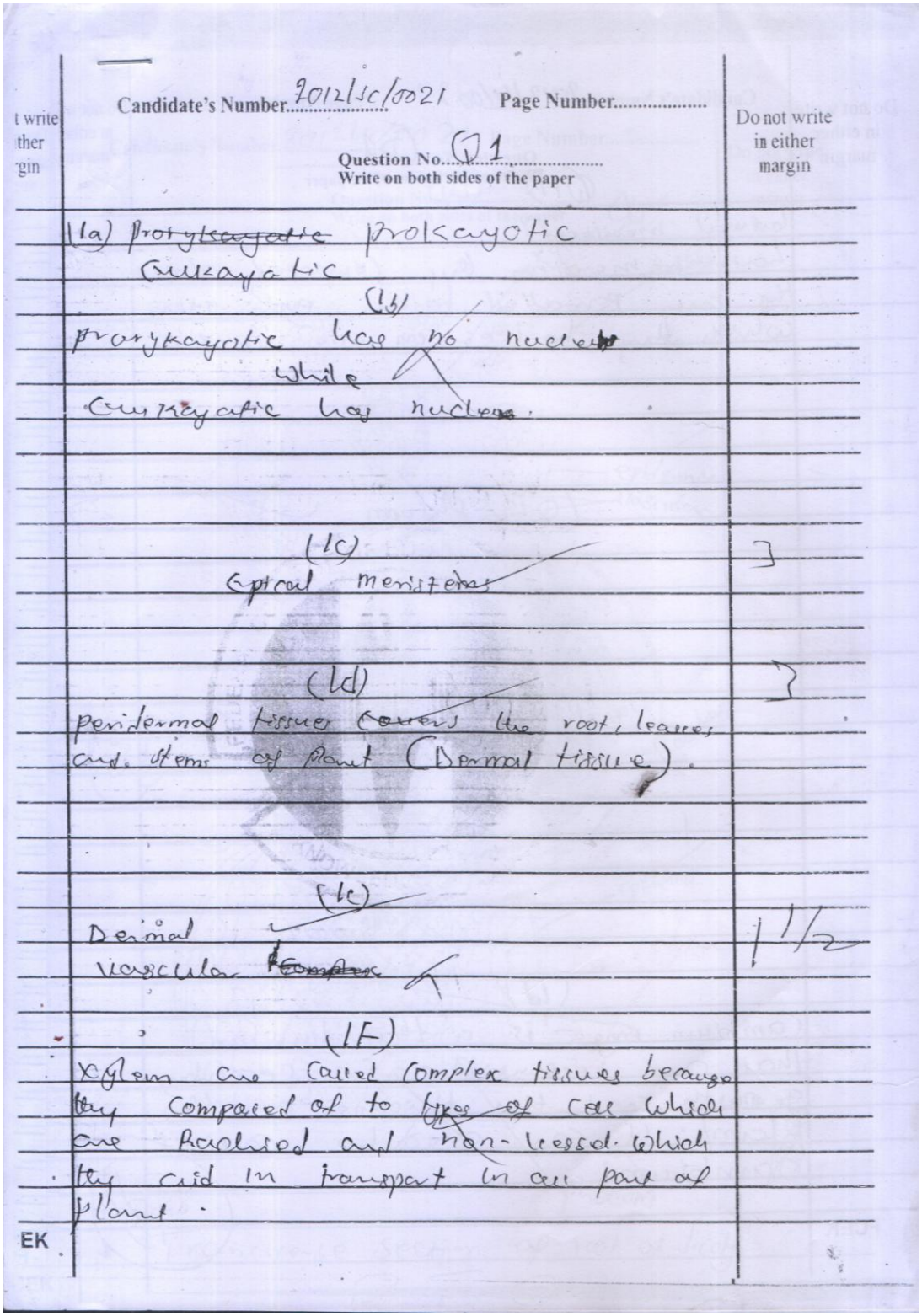
**Physics Students**

He was a scientist of extra ordinary use of small letter to begin a proper noun Galileo

- Past tense – This organization has aid in various aspect of development and amendment of the curriculum.
- The methodology which will be sue to teach Physics.
- It now create a shield
- Use of small letter to being a sentence – election affinity is seen as the ability of an atom to accept one or more electron
- Smelting – incourage instead of encounter
- Some experiment are very dangerous.

## APPENDIX IV

## Sample of Students' Written Work



Candidate's Number 2012/sc/0021 Page Number.....

Question No. Q1

Write on both sides of the paper

Do not write in either margin

(1a) ~~Prokaryotic~~ prokaryotic

Eukaryotic

(1b)

prokaryotic has no nucleus while

Eukaryotic has nucleus.

(1c)

Apical meristems

(1d)

peridermal tissue ~~covers~~ the root, leaves and stems of Plant (Dermal tissue).

(1e)

Dermal

Vascular ~~tissue~~

1 1/2

(1f)

Xylem are called complex tissues because they composed of to ~~types of~~ cell which are Realised and non-leased. which they aid in transport in all part of plant.

EK

(F)

The reason why xylem is called complex tissue is that it contain more than one cell type.

(G)

Phloem

(H)

Colenchyma gives strength to Plant

(I)

Lateral meristem: This is the type of meristematic tissues, that it division leads to thickening of the Plant. this is also refered to as Cambium

(J)

Cambium ring This is also called lateral meristem, the division leads to Secondary thickening or growth

Cambium ring: This is what demarcated the xylem from the Phloem. in Plant Per Season gives raise to per ring, that is, it can be use to differenciate the age of Plant.

2012sc0109

Candidate's Number..... Page Number..... 1

Question No..... 1

Write on both sides of the paper

(A)

The two cell types ~~of cells~~ are:-

(i) ~~Pro~~ Palisade ~~caryotic cell~~ and Palisade cell and

(ii) ~~Eucaryotic cell~~ Parenchyma cell. 3

(B)

The two types of tissues are:-

(i) Meristematic tissue

(ii) Permanent tissue

(i) Meristematic tissue This are the type of tissue that are capable of dividing into numbers. While

(ii) Permanet tissue are the types of tissue that have loss their ability of dividing into into numbers 3

(C)

Apical division leads to increase in height 3

(D)

Peridermal tissue covers the Outermost layer of Plant, that is in a fully grown or matured Plant. 3

(E)

The two ~~types~~ Simple Permanent tissues are:-

(i) Dermal tissue (protective tissue)

(ii) Vascular tissue (complex tissue) E.g. xylem and phloem 1½

EK

Do not write in either margin

Candidate's Number..2012/sc/0043 Page Number..2

Question No..1
Write on both sides of the paper

(g) phloem

(h) collenchyma

(i) Lateral meristem: this is the region along the shoot of plant divide and result to secondary thickening, i.e the present of cambium

(j) Cambium ring: this is the continous formation of ring (interfascu[illegible]ted form) as a result of secondary xylem in dicotydonous and gymnosperm
the cambium posess xylem toward the pith and phloem toward the pericyle which the ring that extend from the vascular bundle continously to form cambium ring.

3
3
1
2
2½

Do not write in either margin

CE
CEK

t write ither rgin

Candidate's Number... 2012/SC/0043 Page Number... 1

Question No... 1
Write on both sides of the paper

Do not write in either margin

(a) (i) Eukaryotic cell
(ii) prokaryotic cell

(b) (i) ~~Meristem~~ meristematic tissue : this is the types of tissue that retain the power of division i.e which can divide mitotically and lead to the increase in the height of the plant while
(2) permanent tissue : this is the type of tissue that has lost their power of division but derive from lateral meristem

(c) Apical meristem

(d) the outermost of a matured plant covered layer

(e) (i) parenchyma
(ii) Sclerenchyma

(f) Xylem is called complex tissue because it consist of two or more simple cells which are xylem vessel, xylem trachied, wood fibre and wood parenchyma and they are responsible for conduction of water.

EK

Do not write in either margin

Candidate's Number. 2012/Sc/0131 Page Number. 2

Question No. 1

Write on both sides of the paper

Do not write in either margin

(e)

Parenchyma tissue

Collenchyma tissue. 3

(f)

Xylem is called Complex tissue because it Consist of more than one cell which include the vessel and the trachied.

(g)

Phloem.

(h)

Sclerenchyma tissue.

(i)

Lateral meristem contain Cambium. They are found in dicot Plant and in Gymnosperm. It division leads to the thickness of Plant body. Lateral meristem forms the secondary permanent tissue. 2

(j)

Cambium ring are found in dicot Plant and gymnosperm. They are usually responsible for secondary growth. They occur in a ring like structure.

24

FCEK

write ther gin

Candidate's Number 2012/sc/0131 Page Number 1

Question No. 1

Write on both sides of the paper

Do not write in either margin

(a)

Eucaryotic Cell

Procaryotic Cell

(b)

Meristematic tissue.

Permanent tissue.

* Meristematic tissue are tissue that are capable of dividing or they are tissue that still retain their dividing property. ~~Example~~ Types include:

Apical meristem.

Intercallary meristem.

Lateral meristem.

* Permanent tissue are tissue that has loss their Power of dividing as a result of ataining a definite size, shape & form.

Types include:

Ground / fundamental tissue (simple tissue)

Dermal tissue (Protective tissue)

vascular tissue (Complex tissue).

3

(c)

Apical meristem

3

(d)

Peridermal tissues covers the outer layer of Plant Parts such as the leaf, flower, fruit, seed and root.

3

2011/sc/0370

4) uses of sharp objects → This happens as a result of using sharp object, if one person used an object which injured him and another uses the same object if such first person is infected it will equaly affect the second person.
e.g
i) People that normal goes to barbers without there own personal clipers it will leads them to infection, if ~~not~~ theres no apropriate sterilization is taken.

5) Injection as syringe usage → This is a process where by if injections where shared between infected person and unifected person such leads to infections.
e.g
i) when a doctor is using a single syringe on two, or more persons it will lead to infetions

ii) If two pairs of injection where provide for two individuals and mistackly the one has already used one and it still used on the other person it can equaly leads to the same infection.

Do not write in either margin

Candidates Number. 211sc/0370 Page Number.....

Question No.....
Write on both sides of the paper

Do not in ei mar

2) Blood transfusion → This is when blood of an infected person has come in contact with the blood of an uninfected person as a result of one of this process.

i) Cut or wounds → This when one is having a cut in any of his part which leads blood to come out of him and come (with the) either the same cut as injured come in contact such lead to blood transfusion and it can called infection.

ii) blood transfusion → This is when an infected person's blood is shared with an uninfected persons blood it will lead to infection.

3) mother to child → This is a process where by the sickness is transferred from the mother to the child by any of this process:

i) Before birth → This can happen before birth because the child uses his mothers blood and other fluids and nutrient for ~~his~~ development.

ii) Breast feeding → This is a process where by if the child is ben feed and traces a sore or a cut from the mothers breast it will leads to infection.

FCEK

Candidates Number 2011/sc/0370 Page Number

Question No. 01A)

Write on both sides of the paper

Do not write in either margin

1) Sexual Intercourse

2, Blood transmision

3, mother to child.

4) used of sharp objects.

5, Injection usage

Explanation:

i) sexual intercourse → This is a process where sexual intercourse occuring between the infected person and unaffected person.

e.g. i, Oral sex → This is the type of sex that occurs between two partners.

ii, anal sex → This occure as a result of sucking of vigina

iii, homosexual → This occure between two the same sex individual either both male or both female.

iv) French kiss → This is exchange of saliver as a result of kissing and if there is sores or cut that will leads to blood sharing and it can cause infection.

COLLEGE OF EDUCATION KONTAGORA

Candidate's Number. 2012/SC/0256 . Page Number. 3

Question No. 7

Write on both sides of the paper

Do not write in either margin

Ionic solids are solids that are formed through electrovalent or ionic bonding between two element.

(1) They are made up of ions.
(2) They are brittle.
(3) They are not volatile.
(4) They are hard and have high melting point.

2e

force of attraction
particles cells

2a

Electron affinity is seen as the ability of atom to accept one or more electron. i.e when an atom looses electron it can accept electron also through the help of electron affinity

2c

force of attraction
particles cells

2b

02

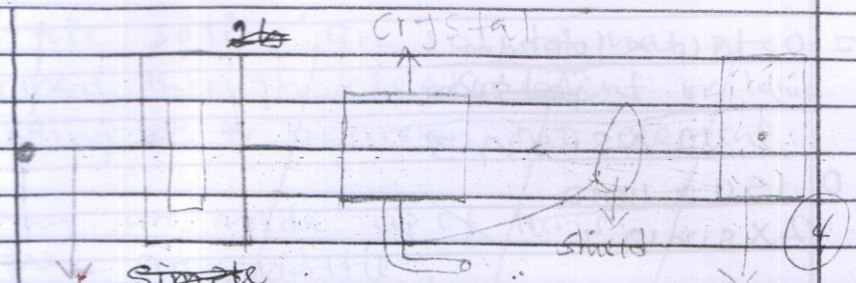
3

EK

Candidate's Number 2012[sc]0256 Page Number 1

Question No. 3
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Simple
X-ray tube

X-ray tube is connected with a crystal which penetrated and flashed through a beam of light it now create a shield that helps the reflection through a photographic unit.

3b

Bragg's equation. $n\lambda = 2d \sin\theta$

3c

$n\lambda = 2d \sin\theta$

$d = \frac{n\lambda}{2\sin\theta}$

$d = \frac{1 \times 0.154 \times 1000\,nm}{2 \times \sin 19.3}$

$= 0.154 \times 1000\,nm$

Candidate's Number.....  Page Number.....

Question No.....
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(C)

* The force of attraction between the particles
* Whether the particles are the same or different
* Their relative size, if they are different

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Candidate's Number.....  Page Number.....

Question No. (i) 2 c

Write on both sides of the paper

Electro affinity is the ability of an atom to accept one or more electron. It is the negative of the energy change that occurs when an electron is accepted by an atom.

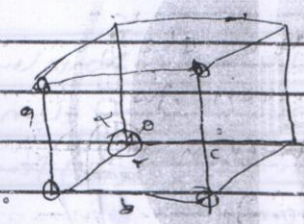
e.g $X_{(g)} + e^- \longrightarrow X^-_{(g)}$

$Fe_{(g)} + e^- \longrightarrow Fe^-_{(g)}$

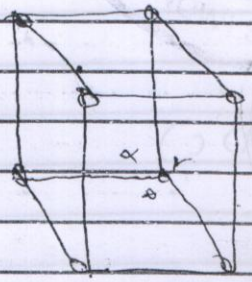
13/20

(5)

(i) Simple cubic unit cells



(ii) Tetrahedral unit cell



(iii) Hexagonal unit cell

(iv) Othorhmbic unit cell

(v) Rhombohedral unit cell

FCEK

Candidate's Number..... Page Number.....

Question No. Q1a

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Ionic Solids are the chemical compounds that are formed by a electrovalent bonding.

properties of ionic solid

(I) They are made up of ions or molten
(II) They are good electrolytes when in solution
(III) They have high boiling point and melting point.
(IV) They are commonly soluble in water
(V) They are non-volatile

(B)

Ions are formed by the electrovalent or Ionic bonding between two elements. Ions solid are formed through ~~fusing~~ forming electron transfer from eg metal to non-metal.

(C)

(I) Electrolytes
(II) Direct current (DC)
(III) Two Electrodes

Candidate's Number 20/2/sc/0258 Page Number 3

Question No. 2

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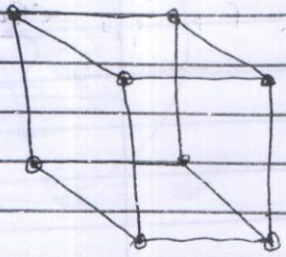
(2 p)

electron affinity :- this is the process by which ions except electrons this ions are said to be, Chemical species formed by the lose or gains of electron.

2b

1. Simple cubic structure
2. face centered cubic structure.
3. monoclinic Unit cell
4. Tetraclinic Unit cell
5. Rhombic Unit cell

- Simple cubic structure



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Candidate's Number 2012/Sc/02258 Page Number 1

Question No. 1

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(1ai) ionic solid => this is the process by which two or more ions are held together by or in an electrical attraction.

(1aii)

(1) they easily dissolved in water.
(2) they do not conduct electricity at how?
(3) they have high melting and boiling point.
(4) they are hard and rigid.
(5) they are crystalline. 04

(1b)

ions are formed in ionic solid by the formation of positive and negative charged — which is the cations and anions.
the cations are the ones that loses electrons while anions gains electrons. 04

(1c)

(1) element
(2) metal
(3) current
(4) differentiation
(5)

08/30

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Candidates Number.....

Page Number.....

Question No. 5

Write on both sides of the paper

(A)

i) Science teacher association of nigeria (STAN)
ii) The comparative education study and adaptation centre (CESAC)
iii) National education Research council (NERC)
iv) WEST africa examination council (WAEC)
v) National educational research and development council (NERDC)

i) Science teacher association of Nigeria: STAN at the earlier stage is responsible for the production of text books in integrated science, physics, chemistry and biology. The effort of STAN forward science education can be categorized as:-
i) Setting of educational goals and objectives
ii) Determination of subject matter content
iii) Provision of instructional material
iv) Assessment of learning outcome.

ii) National education research council:- NERC with the collaboration of other bodies educational bodies e.g WAEC, STAN. Contributed to the development of federal ministry of education on integrated science for junior secondary school. Between the years 1975 and 1985, they distributed new syllabus to school to focus on the proposed 6-3-3-4 system of education

(B)

(i) Poor allocation of time to teaching of Science
(ii) Unavailability of instructional material to teach Science
(iii) Poor in qualities of teacher teaching Science

FCEK

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Candidates Number..... Page Number.....

Question No. 2

Write on both sides of the paper

(b).

movement of a body and still come back to rest (Oscillatory motion)

(iii) Movement of gas in container is the simple/zero movement of object/particle. It does no specific direction of movement (Random motion).

(iv) Prong of a tuning fork:- It occurs when the tuning fork is strike to an object and it vibrate round a fixed body (Vibration/Oscillatory motion)

(v) Smoke movement:- When a piece of paper is lit, it produces smoke, the movement of the smoke is not specific (haphazard) thus can also be use to teach the random movement of an object.

(vi) Energy

(i) Cell is a device/instrument containing chemical energy and can be converted to light energy. It can be observed when the cell is connected to a switch, wire and bulb it generate light. Thus can be use to teach the conversion of chemical energy to light energy.

(ii) Energy (Load) can be defined as the ability or capacity to do work. i.e when a man carries a bag of cement into a truck. a work has been done by the man.

(iii) When a student carries a chair from a particular position to another position energy is said to have been given off.

(iv) When a stationary car has been started and move a certain distance, work is said to have been done since energy is capacity to do work. This movement of is the conversion of potential energy to kinetic energy.

FCEK

FEDERAL COLLEGE OF EDUCATION ONDO

Question No 7
Write on both sides of the paper

(A)

i) Motion

(i) Rotation of a fan.
(ii) To - and fro movement in simple pendulum experiment A
(iii) ~~Movement of a cane~~ Movement of gas in a container.
(iv) Prong of a tunning fork.
(v) Movement of a smoke

ii) Energy :-

(i) Battery / Cell.
(ii) Loading of bags at the market from ground into the truck.
(iii) Carrying of child by student b
(iv) Movement of a car.
(v) Cup ~~with~~ filled with hot water in the spoon inside it.

iii) Light wave

(i) Dropping a stone inside a bowl of water.
(ii) Dipping a prong inside a bowl of water.
(iii) Load tied to a spring.
(iv) Move of guitar string.
(v) Striking of tuning fork on an object.

iv) Kinetic energy

i) ~~Movement of gas molecule~~ Container filled with gas.
ii) Smoke movement
iii) Car movement.
iv) Dashing of object from the upper tower.
v) Whirling of stone tied to a rope.

(B)

i) motion :-

i) Rotation of the fan can be used to illustrate the movement of body towards a fixed axis (Rotational motion)

ii) To and From move in simple pendulum experiment ~~is~~ also can be used to teach / explain the to and fro

Do not write in either margin

Candidates Number.....

Page Number.....

Question No. 1

Write on both sides of the paper

(A)

traditional practice of blood handling cause HIV/AIDS transmissions. And lastly not attending to bleeding on time.

(B)

High cost of Healthcare and Support:- Healthcare involve fee for HIV/AIDS tests, hospitalizing which include Hospital bed occupation, drugs prescribe by practitioner etc.

ii) Economic loss and increase in community burden:- Economic loss in sense that decrease in manpower, productivity and low community income in such that the community face the challenge of low yielding and also cater for the family of the affected by one way or the other.

iii) Psychological trauma:- The loss of loved siblings, servant, families, relatives etc cannot be replace by any form. Therefore, the affected face the challenge of been neglected by the community, widows caring for themselves etc.

iv) Change in medical practitioner:- Majority of the health personnel tends not to go for HIV/AIDS test in other not to create panic for them. And some other time so are medical practitioners discriminate those infected with the disease.

(V) ~~Legal aspect~~

(V) Legal aspect.

FCEK

Candidates Number 2017/S/e/375 Page Number.....

Question No. 1

Write on both sides of the paper

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(A)

i) Sexual Intercourse :- Sexual intercourse is the most rampant way of transmitting HIV/AIDS. It can be transmitted through excessive exchange of partnership, polygamy, promiscuity and also what is known as anal Sex; HIV/AIDS can also be transmitted through practicing of same Sex (homosexual or lesbianism). It is also transmitted through the use of violence when having Sexual intercourse.

ii) Piercing and cutting of the skin :- The virus is transmitted if the body of an organism is exposed by means of either accident, piercing of needle into the body or any other instruments.

iii) Mother child Birth :- A child can contract HIV from the mother by delivery. Pre-natal care usually within 1-6 months the mother's use of drug abuse, infection can all affect the mothers in the womb. It can also be contracted after birth when the mother is in process of breastfeeding the child i.e if the mother's nipple is crack and the child have a sore on the mouth, it can cause the contraction of the disease.

iv) Saliva :- Saliva has a very low contraction of HIV/AIDS from one person to another. However, it can be contracted when the two opposite sex kissing each other have sore and there is exchange of saliva.

v) Blood transfusion :- The disease is transmitted through blood. If the blood to be transfuse into another patient body, the patient contract HIV/AIDS and also improve

CEK

Question No.....
Write on both sides of the paper

Motion

(1) Fan: A fan can serve as an instructional material for teaching ~~plan~~ motions in physics cause. when the fan is rotating it maintain a constant position and continous movement is taking placed it can be used to described Rotational motion

(2) Moving vehicle (car): When teaching translational motion, a vehicle or a moving car can be illustrated by the teacher to show how the car maintain a ~~direction~~ a specific direction or move on it path.

(3) ~~Globe~~ Rotation of the Globe

A globe on it axis can be brought into the class to show to the student how the earth ~~or~~ rotate round it orbits and maintain it movement (rotational motion)

(4) Simple pendulum (pendulum pup): The swinging of the pendulum bob which made it perform oscillation can be very effective in teaching the concept of Oscillatory motion. when the pendulum bob is oscillating it is called oscillatory motion because the body is moving in to and fro direction.

(5) Turning Fork: When a turning fork is ~~held on the~~ hit on the ground it produces some vibrations which can also serves as an instructional material for teaching Vibrational motion in physic effectively.

FCEK

Question No.....
Write on both sides of the paper

Motion

(1) Fan :- A fan can serve as an instructional material for teaching motions in physics cause. when the fan is rotating it maintain a constant position and continous movement is taking placed it can be used to described Rotational motion

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(5) Turning Fork :- When a turning fork is hit on the ground it produces some vibrations which can also serves as an instructional material for teaching vibrational motion in physics effectively.

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Candidates Number..2015/0358 Page Number..4

Question No.....
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of physics. they had made ~~some~~ several research in physics to figure out the problem facing the subject and provide possible solution to such problems.

(2) Development of Teaching material in science (physics)

The organization has made great contribution on the methodology which will be use to teach physics effectively by providing the instructional materials how learning and teaching can be effective without any problem. They develop various tradegy for the provision of instructional media in physics.

FCEK

Candidates Number 2019sci/0384 Page Number 3

Question No. 5
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1- West African Examination Council (WAEC)
2 - National Education and research Council (NERC)
3 - national education and research development Council (NERDC)
4 - Science teachers association of Nigeria (STAN)
5 - Comparative education study and adaptive center (CESAC)

(1) Science teachers association of Nigeria

(1) They science teachers association of Nigeria has made great effort in the development of science education in Nigeria by publications of science books which aid teaching and learning. They made various book such as in different science subject such as mathematics, physics, chemistry, Intergrated science, Biology and has also aid the teaching of science to be more effeciency and easy. They published different books in physics and also guide the methodology use in teaching physics.

(2) Science teachers association has made effort in the designation of the curriculum of science education by introducing core curriculum in sciences such as physics, mathematics, biology, chemistry which are tought as single subject and also introduce the broad curriculum as Intergrated science which comprises all the science subject been thought as a single subject.

(2) National Education and research development Council (NERDC)

(1) Has aid in the development of the Curriculum
(2) Development of the teaching material in sciences.

(1) Development of the curriculum

This organization has aid in various aspect of developing and amendment of the curriculum, including physics which they lay emphases on how to made the curriculum suite the teaching of

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Candidates Number. 2011sc/0384

Page Number..... 2

Question No.....
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(2) SIR ISAAC NEWTON

Sir Isaac Newton (1642 - 1727), he was born on christman day In woolsthoop England In 1642. his father died before he was given birth and soon his mother remamed, so he was raised by grandmother.

Sir Isaac newton is the greatest scientist, who is also known as the father of modern science. He was to the university of cambridge In 1661 and soon after his gradiation. Invention the binomial theorem, he alsol invented the direct and Indirect method of fluxion (Integral and differential Calculus).

Newton made so many contribution In almost all the aspect of sciences, one of his greatest achievement is the principle (PRINCIPIA) which he made some finding that over shadowed Anstotle finding about the complexity of the universe. He also contributed in electromagnetism that is comparing electricity with magnetism.

It was one of Newton work that lead to the discovery of another planetary body known as Neptune, before it was Uranium that was known. Isaac Newton invented a large telescope which uses concave mirror to absorbs light from the sun instead of the lens been used before.

He also made finding In optics the reflection and refraction of light he further the work of galileo galilei on telescopic astronomy. Newton made research In almost all part of physics. He died at the age of 85 years

FCEK

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Candidates Number: 200lsc0384 Page Number: 1

Question No. 3

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(3)(1) Galileo Galilee
(2) Sir Isaac Newton
(3) James clark
(4) Michael Faraday
(5) Jack Maxwell
(6) ~~Albert~~ ~~Einstein~~

(1) Galileo Galilee

Galileo Galilee (1564 - 1642)

He was a scientist of extra ordinary, he was one of the greatest ~~inven~~ Inventive experimental scientist, Galileo made for peculiar development in the revolution of physics education

(1) Telescopic Astronomy
(2) Relating mathematics to experience and experimentation
(3) Motion of bodies
(4) Vector velocities

In telescopic astronomy, galileo was the first person to construct a telescope which can be used to view planetary bodies (cosmos) ~~in the year~~ and he made prove that the moon has the same shape as the earth, he was very inventive and an inquisitive scientist in the aspect of astronomy.

Relating mathematics to experiences and experimention, he brings out the relationship between experience and relating it to mathematics, he was the first scientist to put his experience or observation in experiment. Also in motion of bodies In his finding and research sir galileo was able to find out that there is movement of planetary bodies and how the solar system moves, using his telescope he was able to detect planetary bodies, he also made the vector velocities and how ~~it velocity~~ vector velocities is analyze.

EK

2011/sc/0370

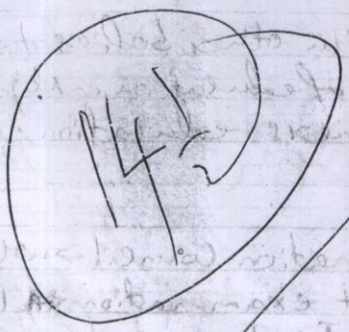
1) Lack of laboratories. 2

2) Some experiment are very dangerious to perform which is a challenge. 2

3) Lack of proper teachers for science subjects or courses

4) Lack of good salaries or wages to the teachers of science education.

5) lack of instructional materials for the teaching of science courses or subjects.



• 2011/Sci/0370

Explanation

(1)

(NERDC) National education Research and development council

Contribution ->

i) The design curriculum for secondary schools and other schools

- They provide textbooks for the various subjects Science Biology, chemistry, physics and mathematics.
- They evaluate sylabus on some schools to see how they are going.
- They collaborate with other bodies to develop federal strategy of education in Nigeria.
- They design teachers education.

2) (WAEC)

West African examination council → which introduce their first examination in (1955) on subjects like Biology, chemistry, physics and other include agric science.

- They motivate science teachers to teach very well
- They encourage hard working in studying science courses or subjects
- They evaluate student
- They design their own sylabus for secondary schools.

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Candidates Number..... Page Number.....

Question No.....
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FCEK

Candidates Number. 2011/sc/10370 Page Number.....

Question No. 05A

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1) (N E R D C) National education Research and development Council

2) (W A E C) → west african examination council

3) (S T A N) → Science Teachers association of Nigeria.

4) (C.E.S.E.A.C)

5) Organisation of national bodies eg (NCCE) National

Explanation

(N E R D C) (1)

i) Contributed to the curriculum.

ii) Contributed for the teachers educational programs.

iii) revising of syllabus some various secondary schools

iv) production of science textbooks eg Biology, chemistry, physics.

(W A E C) → this organisation which conducted her first examination (1955)

- motivate science student to work hard.
- Encourage science teachers to work hard.

FCEK

Candidates Number 2011sc/0370 Page Number.....

Question No.....
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2) i, Energy → Light energy → bulb.

This can be used in teaching light energy because it can shine when lighted, due to energy conversion entails from chemical to light or mechanical to light.

ii) heat energy. Gas cooker can be used teaching physics because it can generate heat when lighted and cooked which can be used to cook food.

iii) Sound energy → Radio → it can be used to teach physics since it transmit sound from one medium to another

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Candidates Number. 2011/sc/0370 Page Number.....

Question No. 2B)
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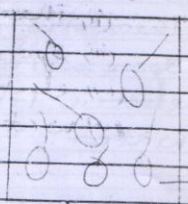
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1)
1) motion -> Rotational motion -> Can use fan to teach because a fan can rotate in a circular part with uniform velocity until ~~a~~ a certain ~~force~~ force acted on it before it will stop.
2) projectile motion
ii) Catapault can be used to teach projectile because when a stone is ~~be~~ fired from a catapault the stone undergoes a parabolic part on the air before coming down to the ground or before forming a curve.
3) Random motion -> gas can be used in teaching random motion because it can not move in a ~~line~~ straight line or path it undergoes a zig-zag motion.
4)



projectile motion

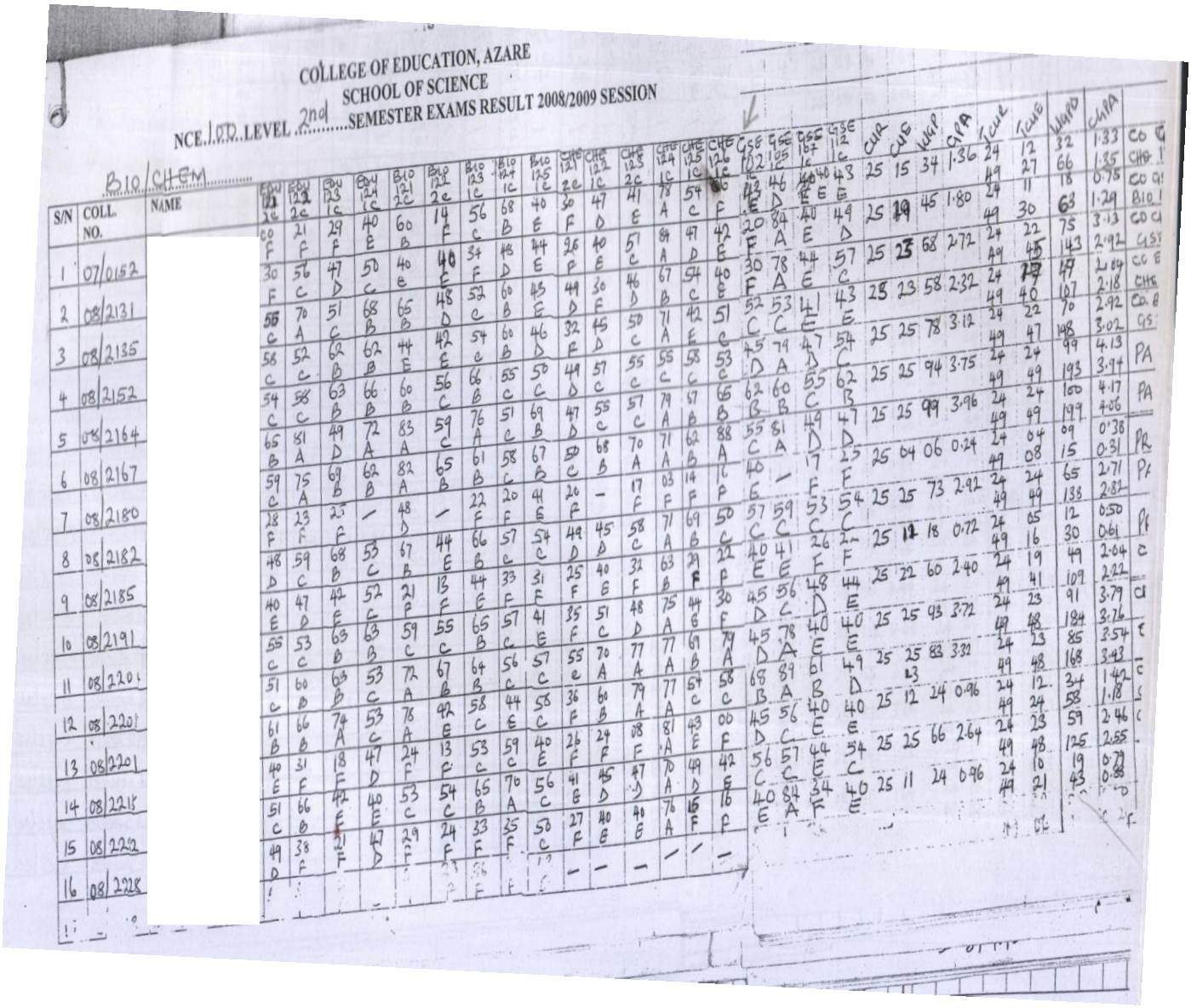
fan
Rotational
motion



Random motion (gas)

FCEK

FC



COLLEGE OF EDUCATION, AZARE
SCHOOL OF SCIENCE
NCE/OND LEVEL 2nd SEMESTER EXAMS RESULT 2008/2009 SESSION

BIO/CHEM

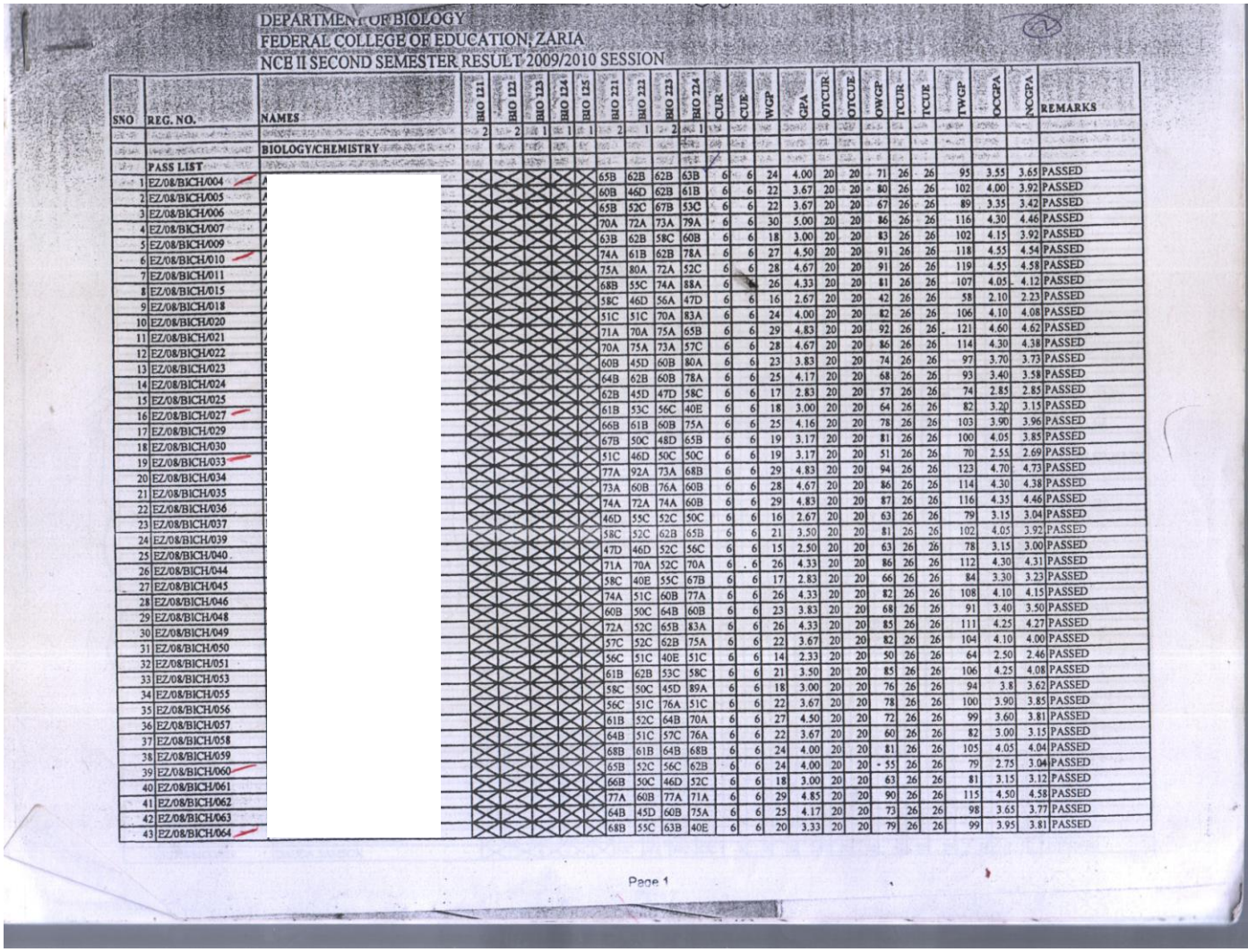
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| 2 | 08/2131 | |
| 3 | 08/2135 | |
| 4 | 08/2152 | |
| 5 | 08/2164 | |
| 6 | 08/2167 | |
| 7 | 08/2180 | |
| 8 | 08/2182 | |
| 9 | 08/2185 | |
| 10 | 08/2191 | |
| 11 | 08/2201 | |
| 12 | 08/2201 | |
| 13 | 08/2201 | |
| 14 | 08/2218 | |
| 15 | 08/2222 | |
| 16 | 08/2228 | |

## DEPARTMENT OF CHEMISTRY
## FEDERAL COLLEGE OF EDUCATION, ZARIA
## NCE II FIRST SEMESTER RESULTS 2009/2010 SESSION

| SNO | REG. NO. | BIO/CHEM | CHE 111 | CHE 112 | CHE 113 | CHE 114 | CHE 115 | CHE 211 | CHE 212 | CHE 213 | CHE 214 | CHE 215 | CHE 216 | CUR | CUE | WGP | GPA | TCUR | TCUE | TWGP | OGGPA | NCGPA | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | PASS LIST | NAME | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | | | | | | | | | | |
| 1 | EZ/08/BICH/004 | [redacted] | | | | | | 70A | 52C | 62B | 58C | 51C | 57C | 6 | 6 | 21 | 3.50 | 21 | 21 | 69 | 3.20 | 3.29 | PASS |
| 2 | EZ/08/BICH/005 | | | | | | | 61B | 40E | 48D | 63B | 40E | 66B | 6 | 6 | 16 | 2.67 | 21 | 21 | 63 | 3.13 | 3.00 | PASS |
| 3 | EZ/08/BICH/007 | | | | | | | 65B | 52C | 65B | 57C | 65B | 80A | 6 | 6 | 23 | 3.83 | 21 | 21 | 82 | 3.93 | 3.90 | PASS |
| 4 | EZ/08/BICH/009 | | | | | | | 74A | 62B | 40E | 52C | 66B | 81A | 6 | 6 | [illegible] | 3.67 | 21 | 21 | 75 | 3.53 | 3.57 | PASS |
| 5 | EZ/08/BICH/010 | | | | | | | 78A | 63B | 68B | 74A | 58C | 70A | 6 | 6 | 26 | 4.33 | 21 | 21 | 96 | 4.67 | 4.47 | PASS |
| 6 | EZ/08/BICH/011 | | | | | | | 72A | 56C | 48D | 57C | 73A | 78A | 6 | 6 | 23 | 3.83 | 21 | 21 | 71 | 3.20 | 3.38 | PASS |
| 7 | EZ/08/BICH/015 | CHEMISTRY / INTER SC | | | | | | 77A | 71A | 60B | 73A | 78A | 78A | 6 | 6 | 29 | 4.83 | 21 | 21 | 93 | 4.27 | 4.43 | PASS |
| 8 | EZ/08/BICH/020 | | | | | | | 72A | 61B | 70A | 65B | 66B | 71A | 6 | 6 | 27 | 4.50 | 21 | 21 | 85 | 3.87 | 4.05 | PASS |
| 9 | EZ/08/BICH/023 | NAME | | | | | | 70A | 40E | 64B | 60B | 51C | 64B | 6 | 6 | 21 | 3.50 | 21 | 21 | 69 | 3.20 | 3.29 | PASS |
| 10 | EZ/08/BICH/024 | [redacted] | | | | | | 61B | 40E | 41E | 64B | 40E | 64B | 6 | 6 | 15 | 2.50 | 21 | 21 | 52 | 2.47 | 2.48 | PASS |
| 11 | EZ/08/BICH/029 | | | | | | | 62B | 47D | 41E | 58C | 50C | 64B | 6 | 6 | 17 | 2.83 | 21 | 21 | 60 | 2.87 | 2.86 | PASS |
| 12 | EZ/08/BICH/030 | CHEMISTRY / INTER S | | | | | | 67B | 62B | 51C | 63B | 51C | 63B | 6 | 6 | 22 | 3.67 | 21 | 21 | 68 | 3.00 | 3.24 | PASS |
| 13 | EZ/08/BICH/031 | NAME | | | | | | 80A | 42E | 57C | 70A | 62B | 76A | 6 | 6 | 23 | 3.83 | 21 | 21 | 76 | 3.53 | 3.62 | PASS |
| 14 | EZ/08/BICH/034 | | | | | | | 79A | 67B | 68B | 76A | 94A | 81A | 6 | 6 | 28 | 4.67 | 21 | 21 | 99 | 4.93 | 4.71 | PASS |
| 15 | EZ/08/BICH/035 | = 6 | | | | | | 77A | 60B | 67B | 67B | 50C | 68B | 6 | 6 | 24 | 4.00 | 21 | 21 | 81 | 3.80 | 3.86 | PASS |
| 16 | EZ/08/BICH/036 | ARRYOVERS = 6 | | | | | | 78A | 54C | 74A | 73A | 77A | 71A | 6 | 6 | 28 | 4.67 | 21 | 21 | 81 | 3.53 | 3.86 | PASS |
| 17 | EZ/08/BICH/039 | | | | | | | 75A | 45D | 46D | 54C | 60B | 67B | 6 | 6 | 20 | 3.33 | 21 | 21 | 79 | 3.93 | 3.76 | PASS |
| 18 | EZ/08/BICH/041 | | | | | | | 53C | 40E | 45D | 61B | 67B | 68B | 6 | 6 | 14 | 2.33 | 21 | 21 | 54 | 2.67 | 2.57 | PASS |
| 19 | EZ/08/BICH/044 | DE | | | | | | 81A | 56C | 65B | 62B | 75A | 78A | 6 | 6 | 26 | 4.33 | 21 | 21 | 87 | 4.07 | 4.14 | PASS |
| 20 | EZ/08/BICH/046 | PR | | | | | | 72A | 50C | 48D | 68B | 52C | 76A | 6 | 6 | 22 | 3.67 | 21 | 21 | 72 | 3.33 | 3.43 | PASS |
| 21 | EZ/08/BICH/049 | TH | | | | | | 81A | 47D | 60B | 61B | 36B | 78A | 6 | 6 | 24 | 4.00 | 21 | 21 | 83 | 3.93 | 3.95 | PASS |
| 22 | EZ/08/BICH/050 | THE | | | | | | 58C | 40E | 52C | 62B | 62B | 71A | 6 | 6 | 20 | 3.33 | 21 | 21 | 70 | 3.53 | 3.33 | PASS |
| 23 | EZ/08/BICH/053 | ENV | | | | | | 83A | 56C | 50C | 42E | 81A | 68B | 6 | 6 | 21 | 3.50 | 21 | 21 | 70 | 3.27 | 3.33 | PASS |
| 24 | EZ/08/BICH/056 | CHE | | | | | | 70A | 61B | 48D | 61B | 72A | 74A | 6 | 6 | 25 | 4.17 | 21 | 21 | 93 | 4.53 | 4.43 | PASS |
| 25 | EZ/08/BICH/059 | CH | | | | | | 75A | 45D | 56C | 60B | 58C | 81A | 6 | 6 | 22 | 3.66 | 21 | 21 | 70 | 3.33 | 3.38 | PASS |
| 26 | EZ/08/BICH/062 | | | | | | | 84A | 76A | 62B | 70A | 81A | 73A | 6 | 6 | 29 | 4.83 | 21 | 21 | 97 | 4.13 | 4.33 | PASS |
| 27 | EZ/08/BICH/063 | | | | | | | 46D | 55C | 40E | 54C | 54C | 55C | 6 | 6 | 15 | 2.50 | 21 | 21 | 52 | 2.31 | 2.48 | PASS |
| 28 | EZ/08/BICH/0[illegible] | | | | | | | 62B | 61B | 51C | 64B | 80A | 74A | 6 | 6 | 25 | 4.17 | 21 | 21 | 82 | 3.80 | 3.90 | PASS |
| 29 | EZ/08/BICH/088 | | | | | | 76B | 62B | 40E | 40E | 58C | 53C | 60B | 7 | 7 | 21 | 3.00 | 22 | 21 | 49 | 1.87 | 2.23 | PASS |

# DEPARTMENT OF PHYSICS
## FEDERAL COLLEGE OF EDUCATION, ZARIA
## NCE II SECOND SEMESTER RESULT 2009/2010 SESSION

| S/NO | REG. NO. | NAMES | PHY 121 | PHY 122 | PHY 123 | PHY 124 | PHY 125 | PHY 221 | PHY 222 | PHY 223 | PHY 224 | CUR | CUE | WGP | GPA | OTCUR | OTCUE | OTWGP | TCUR | TCUE | TWGP | OCGPA | NCGPA | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 3 | 2 | 2 | 2 | 1 | 2 | 2 | 2 | 2 | | | | | | | | | | | | | |
| | | CHEMISTRY / PHYSICS | | | | | | | | | | | | | | | | | | | | | | |
| 1 | EZ/08/CHPY/004 | | | | | | | 64 B | 48 D | 50 C | 53 C | 8 | 8 | 24 | 3.00 | 27 | 27 | 96 | 35 | 35 | 120 | 3.56 | 3.43 | Passed |
| 2 | EZ/08/CHPY/007 | | | | | | | 61 B | 50 C | 40 E | 50 C | 8 | 8 | 22 | 2.75 | 27 | 27 | 89 | 35 | 35 | 111 | 3.30 | 3.17 | Passed |
| 3 | EZ/08/CHPY/013 | | | | | | | 68 B | 43 E | 55 C | 66 B | 8 | 8 | 24 | 3.00 | 27 | 27 | 92 | 35 | 35 | 116 | 3.41 | 3.31 | Passed |
| 4 | EZ/08/CHPY/001 | | | | | | | 62 B | 40 E | 40 E | 47 D | 8 | 8 | 16 | 2.00 | 27 | 22 | 42 | 35 | 30 | 58 | 1.66 | 1.65 | C/O Phy 211, 212 |
| 5 | EZ/08/CHPY/003 | | | | | | | 68 B | 40 E | 41 E | 55 C | 8 | 8 | 18 | 2.25 | 27 | 23 | 54 | 35 | 31 | 72 | 2.00 | 2.06 | C/O Phy 111, 213 |
| 6 | EZ/08/CHPY/008 | | | | | | | 55 C | 23 F | 10 F | 22 F | 8 | 2 | 6 | 0.75 | 27 | 14 | 16 | 35 | 16 | 22 | 0.59 | 0.63 | Co Phy 111, 121, 211, 212, 213, 215, 222, 223, 224 Advise to change course |
| 7 | EZ/08/CHPY/012 | | | | | | | | 15 F | 46 D | | 4 | 2 | 4 | 1.00 | 27 | 18 | 40 | 35 | 20 | 44 | 1.48 | 1.26 | C/O Phy 111, 121, 211, 223, 221, 222 |
| 8 | EZ/08/CHPY/015 | | | | | | | 65 B | 28 F | 41 E | 46 D | 8 | 6 | 14 | 1.75 | 29 | 23 | 39 | 37 | 29 | 53 | 1.34 | 1.43 | C/O Phy 114, 212, 222 |
| 9 | EZ/08/CHPY/017 | | | | | | | 62 B | 43 E | 40 E | 41 E | 8 | 8 | 14 | 1.75 | 27 | 15 | 29 | 35 | 23 | 43 | 1.07 | 1.23 | C/O Phy 111, 113, 211, 212, 213 |
| 10 | EZ/08/CHPY/018 | | | | | | | 62 B | 40 E | 9 F | 52 C | 8 | 6 | 16 | 2.00 | 27 | 27 | 52 | 35 | 33 | 68 | 1.93 | 1.94 | C/O 223 |
| | | PHYSICS / INTEGRATED SCIENCE | | | | | | | | | | | | | | | | | | | | | | |
| 11 | EZ/08/PYIN/001 | | | | | | | 50 C | 45 D | 50 C | 63 B | 8 | 8 | 24 | 3.00 | 27 | 27 | 113 | 35 | 35 | 137 | 4.19 | 3.91 | Passed |
| 12 | EZ/08/PYIN/004 | | | | | | | 67 B | 61 B | 76 A | 64 B | 8 | 8 | 34 | 4.25 | 27 | 27 | 133 | 35 | 35 | 167 | 4.93 | 4.77 | Passed |
| 13 | EZ/08/PYIN/005 | | | | | | | 67 B | 60 B | 50 C | 60 B | 8 | 8 | 30 | 3.75 | 27 | 27 | 92 | 35 | 35 | 122 | 3.41 | 3.49 | Passed |
| 14 | EZ/08/PYIN/007 | | | | | | | 50 C | 50 C | 40 E | 61 B | 8 | 8 | 22 | 2.75 | 27 | 27 | 86 | 35 | 35 | 108 | 3.19 | 3.04 | Passed |
| 15 | EZ/08/PYIN/009 | | | | | | | 52 C | 40 E | 40 E | 52 C | 8 | 8 | 16 | 2.00 | 27 | 22 | 44 | 35 | 30 | 60 | 1.63 | 1.71 | C/O Phy 211, 213, 215 |
| 16 | EZ/08/CHPY/006 | | | | | | | | 29 F | 2 F | 22 F | 6 | 0 | 0 | 0.00 | 27 | 19 | 38 | 35 | 19 | 38 | 1.41 | 1.09 | C/O Phy 211, 212, 213, 215, 221, 222, 223, 224 |
| | | PHYSICS / COMPUTER | | | | | | | | | | | | | | | | | | | | | | |
| 17 | EZ/08/PYCO/001 | | | | | | | 77 A | 74 A | 72 A | 57 C | 8 | 8 | 36 | 4.50 | 27 | 27 | 124 | 35 | 35 | 160 | 4.59 | 4.57 | Passed |
| 18 | EZ/08/PYCO/002 | | | | | | | 68 B | 57 C | 51 C | 61 B | 8 | 8 | 28 | 3.50 | 27 | 27 | 116 | 35 | 35 | 144 | 4.30 | 4.11 | Passed |
| 19 | EZ/08/PYCO/005 | | | | | | | 68 B | 58 C | 52 C | 50 C | 8 | 8 | 26 | 3.25 | 27 | 27 | 84 | 35 | 35 | 110 | 3.11 | 3.14 | Passed |
| 20 | EZ/08/PYCO/006 | | | | | | | 77 A | 73 A | 61 B | 60 B | 8 | 8 | 36 | 4.50 | 27 | 27 | 116 | 35 | 35 | 152 | 4.30 | 4.34 | Passed |
| 21 | EZ/08/PYCO/009 | | | | | | | 58 C | 46 D | 45 D | 54 C | 8 | 8 | 20 | 2.50 | 28 | 27 | 62 | 36 | 35 | 82 | 2.21 | 2.28 | Passed |
| 22 | EZ/08/PYCO/016 | | | | | | | 73 A | 45 D | 45 D | 62 B | 8 | 8 | 26 | 3.25 | 27 | 27 | 101 | 35 | 35 | 127 | 3.74 | 3.63 | Passed |
| 23 | EZ/08/PYCO/017 | | | | | | | 50 C | 45 D | 50 C | 66 B | 8 | 8 | 24 | 3.00 | 27 | 27 | 106 | 35 | 35 | 130 | 3.93 | 3.71 | Passed |
| 24 | EZ/08/PYCO/020 | | | | | | | 56 C | 40 E | 40 E | 54 C | 8 | 8 | 16 | 2.00 | 27 | 27 | 66 | 35 | 35 | 82 | 2.44 | 2.34 | Passed |



DEPARTMENT OF BIOLOGY
FEDERAL COLLEGE OF EDUCATION, ZARIA
NCE II SECOND SEMESTER RESULT 2009/2010 SESSION

| SNO | REG. NO. | NAMES | BIO 121 | BIO 122 | BIO 123 | BIO 124 | BIO 125 | BIO 221 | BIO 223 | BIO 223 | BIO 224 | CUR | CUE | WGP | GPA | OTCUR | OTCUE | OWGP | TCUR | TCUE | TWGP | OCGPA | NCGPA | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 2 | 2 | 1 | 1 | 1 | 2 | 1 | 2 | 1 | | | | | | | | | | | | | |
| | | BIOLOGY/CHEMISTRY | | | | | | | | | | | | | | | | | | | | | | |
| | PASS LIST | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | EZ/08/BICH/004 | | | | | | | 65B | 62B | 62B | 63B | 6 | 6 | 24 | 4.00 | 20 | 20 | 71 | 26 | 26 | 95 | 3.55 | 3.65 | PASSED |
| 2 | EZ/08/BICH/005 | | | | | | | 60B | 46D | 62B | 61B | 6 | 6 | 22 | 3.67 | 20 | 20 | 80 | 26 | 26 | 102 | 4.00 | 3.92 | PASSED |
| 3 | EZ/08/BICH/006 | | | | | | | 65B | 52C | 67B | 53C | 6 | 6 | 22 | 3.67 | 20 | 20 | 67 | 26 | 26 | 89 | 3.35 | 3.42 | PASSED |
| 4 | EZ/08/BICH/007 | | | | | | | 70A | 72A | 73A | 79A | 6 | 6 | 30 | 5.00 | 20 | 20 | 86 | 26 | 26 | 116 | 4.30 | 4.46 | PASSED |
| 5 | EZ/08/BICH/009 | | | | | | | 63B | 62B | 58C | 60B | 6 | 6 | 18 | 3.00 | 20 | 20 | 83 | 26 | 26 | 102 | 4.15 | 3.92 | PASSED |
| 6 | EZ/08/BICH/010 | | | | | | | 74A | 61B | 62B | 78A | 6 | 6 | 27 | 4.50 | 20 | 20 | 91 | 26 | 26 | 118 | 4.55 | 4.54 | PASSED |
| 7 | EZ/08/BICH/011 | | | | | | | 75A | 80A | 72A | 52C | 6 | 6 | 28 | 4.67 | 20 | 20 | 91 | 26 | 26 | 119 | 4.55 | 4.58 | PASSED |
| 8 | EZ/08/BICH/015 | | | | | | | 68B | 55C | 74A | 88A | 6 | 6 | 26 | 4.33 | 20 | 20 | 81 | 26 | 26 | 107 | 4.05 | 4.12 | PASSED |
| 9 | EZ/08/BICH/018 | | | | | | | 58C | 46D | 56A | 47D | 6 | 6 | 16 | 2.67 | 20 | 20 | 42 | 26 | 26 | 58 | 2.10 | 2.23 | PASSED |
| 10 | EZ/08/BICH/020 | | | | | | | 51C | 51C | 70A | 83A | 6 | 6 | 24 | 4.00 | 20 | 20 | 82 | 26 | 26 | 106 | 4.10 | 4.08 | PASSED |
| 11 | EZ/08/BICH/021 | | | | | | | 71A | 70A | 75A | 65B | 6 | 6 | 29 | 4.83 | 20 | 20 | 92 | 26 | 26 | 121 | 4.60 | 4.62 | PASSED |
| 12 | EZ/08/BICH/022 | | | | | | | 70A | 75A | 73A | 57C | 6 | 6 | 28 | 4.67 | 20 | 20 | 86 | 26 | 26 | 114 | 4.30 | 4.38 | PASSED |
| 13 | EZ/08/BICH/023 | | | | | | | 60B | 45D | 60B | 80A | 6 | 6 | 23 | 3.83 | 20 | 20 | 74 | 26 | 26 | 97 | 3.70 | 3.73 | PASSED |
| 14 | EZ/08/BICH/024 | | | | | | | 64B | 62B | 60B | 78A | 6 | 6 | 25 | 4.17 | 20 | 20 | 68 | 26 | 26 | 93 | 3.40 | 3.58 | PASSED |
| 15 | EZ/08/BICH/025 | | | | | | | 62B | 45D | 47D | 58C | 6 | 6 | 17 | 2.83 | 20 | 20 | 57 | 26 | 26 | 74 | 2.85 | 2.85 | PASSED |
| 16 | EZ/08/BICH/027 | | | | | | | 61B | 53C | 56C | 40E | 6 | 6 | 18 | 3.00 | 20 | 20 | 64 | 26 | 26 | 82 | 3.20 | 3.15 | PASSED |
| 17 | EZ/08/BICH/029 | | | | | | | 66B | 61B | 60B | 75A | 6 | 6 | 25 | 4.16 | 20 | 20 | 78 | 26 | 26 | 103 | 3.90 | 3.96 | PASSED |
| 18 | EZ/08/BICH/030 | | | | | | | 67B | 50C | 48D | 65B | 6 | 6 | 19 | 3.17 | 20 | 20 | 81 | 26 | 26 | 100 | 4.05 | 3.85 | PASSED |
| 19 | EZ/08/BICH/033 | | | | | | | 51C | 46D | 50C | 50C | 6 | 6 | 19 | 3.17 | 20 | 20 | 51 | 26 | 26 | 70 | 2.55 | 2.69 | PASSED |
| 20 | EZ/08/BICH/034 | | | | | | | 77A | 92A | 73A | 68B | 6 | 6 | 29 | 4.83 | 20 | 20 | 94 | 26 | 26 | 123 | 4.70 | 4.73 | PASSED |
| 21 | EZ/08/BICH/035 | | | | | | | 73A | 60B | 76A | 60B | 6 | 6 | 28 | 4.67 | 20 | 20 | 86 | 26 | 26 | 114 | 4.30 | 4.38 | PASSED |
| 22 | EZ/08/BICH/036 | | | | | | | 74A | 72A | 74A | 60B | 6 | 6 | 29 | 4.83 | 20 | 20 | 87 | 26 | 26 | 116 | 4.35 | 4.46 | PASSED |
| 23 | EZ/08/BICH/037 | | | | | | | 46D | 55C | 52C | 50C | 6 | 6 | 16 | 2.67 | 20 | 20 | 63 | 26 | 26 | 79 | 3.15 | 3.04 | PASSED |
| 24 | EZ/08/BICH/039 | | | | | | | 58C | 52C | 62B | 65B | 6 | 6 | 21 | 3.50 | 20 | 20 | 81 | 26 | 26 | 102 | 4.05 | 3.92 | PASSED |
| 25 | EZ/08/BICH/040 | | | | | | | 47D | 46D | 52C | 56C | 6 | 6 | 15 | 2.50 | 20 | 20 | 63 | 26 | 26 | 78 | 3.15 | 3.00 | PASSED |
| 26 | EZ/08/BICH/044 | | | | | | | 71A | 70A | 52C | 70A | 6 | 6 | 26 | 4.33 | 20 | 20 | 86 | 26 | 26 | 112 | 4.30 | 4.31 | PASSED |
| 27 | EZ/08/BICH/045 | | | | | | | 58C | 40E | 55C | 67B | 6 | 6 | 17 | 2.83 | 20 | 20 | 66 | 26 | 26 | 84 | 3.30 | 3.23 | PASSED |
| 28 | EZ/08/BICH/046 | | | | | | | 74A | 51C | 60B | 77A | 6 | 6 | 26 | 4.33 | 20 | 20 | 82 | 26 | 26 | 108 | 4.10 | 4.15 | PASSED |
| 29 | EZ/08/BICH/048 | | | | | | | 60B | 50C | 64B | 60B | 6 | 6 | 23 | 3.83 | 20 | 20 | 68 | 26 | 26 | 91 | 3.40 | 3.50 | PASSED |
| 30 | EZ/08/BICH/049 | | | | | | | 72A | 52C | 65B | 83A | 6 | 6 | 26 | 4.33 | 20 | 20 | 85 | 26 | 26 | 111 | 4.25 | 4.27 | PASSED |
| 31 | EZ/08/BICH/050 | | | | | | | 57C | 52C | 62B | 75A | 6 | 6 | 22 | 3.67 | 20 | 20 | 82 | 26 | 26 | 104 | 4.10 | 4.00 | PASSED |
| 32 | EZ/08/BICH/051 | | | | | | | 56C | 51C | 40E | 51C | 6 | 6 | 14 | 2.33 | 20 | 20 | 50 | 26 | 26 | 64 | 2.50 | 2.46 | PASSED |
| 33 | EZ/08/BICH/053 | | | | | | | 61B | 62B | 53C | 58C | 6 | 6 | 21 | 3.50 | 20 | 20 | 85 | 26 | 26 | 106 | 4.25 | 4.08 | PASSED |
| 34 | EZ/08/BICH/055 | | | | | | | 58C | 50C | 45D | 89A | 6 | 6 | 18 | 3.00 | 20 | 20 | 76 | 26 | 26 | 94 | 3.8 | 3.62 | PASSED |
| 35 | EZ/08/BICH/056 | | | | | | | 56C | 51C | 76A | 51C | 6 | 6 | 22 | 3.67 | 20 | 20 | 78 | 26 | 26 | 100 | 3.90 | 3.85 | PASSED |
| 36 | EZ/08/BICH/057 | | | | | | | 61B | 52C | 64B | 70A | 6 | 6 | 27 | 4.50 | 20 | 20 | 72 | 26 | 26 | 99 | 3.60 | 3.81 | PASSED |
| 37 | EZ/08/BICH/058 | | | | | | | 64B | 51C | 57C | 76A | 6 | 6 | 22 | 3.67 | 20 | 20 | 60 | 26 | 26 | 82 | 3.00 | 3.15 | PASSED |
| 38 | EZ/08/BICH/059 | | | | | | | 68B | 61B | 64B | 68B | 6 | 6 | 24 | 4.00 | 20 | 20 | 81 | 26 | 26 | 105 | 4.05 | 4.04 | PASSED |
| 39 | EZ/08/BICH/060 | | | | | | | 65B | 52C | 56C | 62B | 6 | 6 | 24 | 4.00 | 20 | 20 | 55 | 26 | 26 | 79 | 2.75 | 3.04 | PASSED |
| 40 | EZ/08/BICH/061 | | | | | | | 66B | 50C | 46D | 52C | 6 | 6 | 18 | 3.00 | 20 | 20 | 63 | 26 | 26 | 81 | 3.15 | 3.12 | PASSED |
| 41 | EZ/08/BICH/062 | | | | | | | 77A | 60B | 77A | 71A | 6 | 6 | 29 | 4.85 | 20 | 20 | 90 | 26 | 26 | 115 | 4.50 | 4.58 | PASSED |
| 42 | EZ/08/BICH/063 | | | | | | | 64B | 45D | 60B | 75A | 6 | 6 | 25 | 4.17 | 20 | 20 | 73 | 26 | 26 | 98 | 3.65 | 3.77 | PASSED |
| 43 | EZ/08/BICH/064 | | | | | | | 68B | 55C | 63B | 40E | 6 | 6 | 20 | 3.33 | 20 | 20 | 79 | 26 | 26 | 99 | 3.95 | 3.81 | PASSED |

Page 1

FEDERAL COLLEGE OF EDUCATION (SPECIAL), OYO
SCHOOL OF SCIENCE
DEPARTMENT: BIOLOGY

COURSE: SHI / BIO
LEVEL: 200 SEMESTER: FIRST AND SECOND
SESSION: 2009/2010

| S/N | MATRIC NO | CODE | 211 | 212 | 213 | 214 | 215 | 216 | 221 | 222 | 223 | 224 | TUT | TUP | TUE | WGP | GPA | GRD | REMARK |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | UNIT | 1 | 2 | 1 | 2 | 1 | 1 | 2 | 1 | 2 | 1 | | | | | | | |
| | | STATUS | C | C | C | C | C | C | C | E | C | C | | | | | | | |
| 1 | 25275 | | 41 | 41 | 29 | 44 | 40 | 28 | 41 | 40 | 27 | 32 | 14 | 09 | 14 | 009 | 0.64 | F | To Re-run 213, 216, 223, 224 |
| 2 | 25280 | | 40 | 40 | 25 | 42 | 43 | 41 | 51 | 40 | 46 | 29 | 14 | 12 | 14 | 027 | 1.93 | D | To Re-run 213, 224 |
| 3 | 25287 | | 46 | 45 | 29 | 43 | 46 | 41 | 61 | 41 | 47 | 50 | 14 | 13 | 14 | 027 | 1.93 | D | To Re-run 213 |
| 4 | 25288 | | 55 | 44 | 50 | 47 | 63 | 51 | 66 | 41 | 53 | 33 | 14 | 13 | 14 | 034 | 2.43 | C | To Re-run 224 |
| 5 | 25296 | | 57 | 58 | 45 | 57 | 57 | 60 | 67 | 50 | 52 | 58 | 14 | 14 | 14 | 044 | 3.14 | C | PASS |
| 6 | 25298 | | 52 | 47 | 58 | 55 | 52 | 51 | 64 | 40 | 47 | 57 | 14 | 14 | 14 | 038 | 3.8 | B | PASS |
| 7 | 25305 | | 61 | 62 | 70 | 64 | 65 | 62 | 73 | 56 | 66 | 56 | 14 | 14 | 14 | 057 | 4.07 | B | PASS |
| 8 | 25316 | | 63 | 47 | 48 | 60 | 52 | 41 | 54 | 45 | 61 | 56 | 14 | 14 | 14 | 041 | 2.93 | C | PASS |
| 9 | 25320 | | 51 | 43 | 33 | 50 | 57 | 45 | 52 | 41 | 42 | 54 | 14 | 13 | 14 | 028 | 2.00 | D | To Re-run 213 |
| 10 | 25328 | | 40 | 40 | 40 | 41 | 55 | 52 | 42 | 40 | 40 | 48 | 14 | 14 | 14 | 019 | 1.36 | E | PASS |
| 11 | 2533 | Now is SP4. | | | | | | | | | | | | | | | | | |
| 12 | 25332 | | 26 | 22 | 34 | 27 | 43 | 47 | 41 | 40 | 40 | 28 | 14 | 07 | 14 | 008 | 0.57 | F | To Re-run 211 212 213 214 224 |
| 13 | 25351 | | 47 | 58 | 60 | 64 | 52 | 63 | 53 | AB | 47 | 56 | 14 | 13 | 14 | 040 | 2.86 | C | To Re-run 222 |
| 14 | 25360 | | 29 | 50 | 33 | 44 | 46 | 42 | 42 | 45 | 43 | 40 | 14 | 12 | 14 | 018 | 1.80 | D | To Re-run 211 213 |
| 15 | 25365 | | 60 | 72 | 64 | 75 | 67 | 61 | 77 | 62 | 66 | 62 | 14 | 14 | 14 | 062 | 4.43 | B | PASS |

NO OF STUDENT:
NO OF PASSED:
NO OF FAILED:

NAME: ARAOYE, M. I. (MRS)
SIGNATURE: 14/09/10
DEPTAL. EXAM OFFICER

NAME: ADEDEJI, A. T.
SIGNATURE:
H.O.D:

NAME: (MRS) AKINTAYLOR, M. A.
SIGNATURE
DEAN:

SCHOOL OF SCIENCE
FCE (SP) OYO

for Research Purpose

CENTRE FOR MANAGEMENT INFORMATION SYSTEMS
OYO STATE COLLEGE OF EDUCATION
P.M.B. 1010, OYO
DIRECTOR SIGN.....

22/9/2011

# SCHOOL OF SCIENCE

## COURSE COMBINATION: BIO/CHE

## MASTER MARK SHEET

## 2009/2010 SESSION SECOND SEMESTER 200 LEVEL

## SUBJECT: GENERAL STUDIES EDUCATION

Date: Thursday, 22/Sep/2011

Time: 1:54 PM

| S/NO | MATRIC NUMBER | REGISTERED COURSES, UNITS, SCORES & GRADES | OUTSTANDING COURSES | PREVIOUS TCP | PREVIOUS TNU | PREVIOUS CGPA | PRESENT TCP | PRESENT TNU | PRESENT GPA | FINAL TCP | FINAL TNU | FINAL CGPA | FINAL RMK |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 08/086494 | GSE104(1):60B GSE108(1):63B | | 28 | 10 | 0.00 | 8 | 2 | 4.00 | 36 | 12 | 3.00 | PAS |
| 2 | 08/086495 | GSE104(1):52C GSE108(1):64B | | 26 | 10 | 0.00 | 7 | 2 | 3.50 | 33 | 12 | 2.75 | PAS |
| 3 | 08/086496 | GSE104(1):67B GSE108(1):61B | | 39 | 10 | 0.00 | 8 | 2 | 4.00 | 47 | 12 | 3.92 | PAS |
| 4 | 08/086497 | GSE104(1):A.R GSE108(1):A.R | GSE103(A.R) GSE104(A.R) GSE106(A.R) GSE108(A.R) | 38 | 8 | 0.00 | 0 | 0 | 0.00 | 38 | 8 | 0.00 | CSO |
| 5 | 08/086498 | GSE104(1):47D GSE108(1):43E | GSE101(A.R) | 23 | 10 | 0.00 | 3 | 2 | 1.50 | 26 | 12 | 2.17 | CSO |
| 6 | 08/086499 | GSE104(1):67B GSE108(1):55C | | 30 | 10 | 0.00 | 7 | 2 | 3.50 | 37 | 12 | 3.08 | PAS |
| 7 | 08/086500 | GSE104(1):47D GSE108(1):53C | | 35 | 10 | 0.00 | 5 | 2 | 2.50 | 40 | 12 | 3.33 | PAS |
| 8 | 08/086501 | GSE104(1):61B GSE108(1):62B | | 34 | 10 | 0.00 | 8 | 2 | 4.00 | 42 | 12 | 3.50 | PAS |
| 9 | 08/086502 | GSE104(1):43E GSE107(1):42E GSE108(1):27F | GSE108(REP) | 16 | 10 | 0.00 | 2 | 3 | 0.67 | 18 | 13 | 1.38 | CSO |
| 10 | 08/086503 | GSE104(1):62B GSE108(1):58C | | 32 | 10 | 0.00 | 7 | 2 | 3.50 | 39 | 12 | 3.25 | PAS |
| 11 | 08/086504 | GSE104(1):A.R GSE108(1):A.R | GSE110(A.R) GSE101(A.R) GSE102(A.R) GSE112(A.R) GSE103(A.R) GSE104(A.R) GSE106(A.R) GSE108(A.R) GSE113(A.R) GSE107(CRF) | 3 | 1 | 0.00 | 0 | 0 | 0.00 | 3 | 1 | 0.00 | CSO |
| 12 | 08/086505 | GSE104(1):66B GSE108(1):62B | | 39 | 10 | 0.00 | 8 | 2 | 4.00 | 47 | 12 | 3.92 | PAS |
| 13 | 08/086506 | GSE104(1):70A GSE108(1):71A | | 40 | 10 | 0.00 | 10 | 2 | 5.00 | 50 | 12 | 4.17 | PAS |
| 14 | 08/086507 | GSE104(1):72A GSE108(1):45D | | 41 | 10 | 0.00 | 7 | 2 | 3.50 | 48 | 12 | 4.00 | PAS |
| 15 | 08/086508 | GSE104(1):52C GSE108(1):68B | | 32 | 10 | 0.00 | 7 | 2 | 3.50 | 39 | 12 | 3.25 | PAS |

Page: 1



# SCHOOL OF SCIENCE

## COURSE COMBINATION: MAT/PHY

## MASTER MARK SHEET

## 2009/2010 SESSION FIRST SEMESTER 200 LEVEL

## SUBJECT: PHYSICS

for Research Purpose

27/9/2011

CENTRE FOR MANAGEMENT INFORMATION SYSTEM
OYO STATE COLLEGE OF EDUCATION
F.M.B. 1010, OYO

Date: Thursday, 22/Sep/2011
Time: 1:41 PM

| S/NO | MATRIC NUMBER | REGISTERED COURSES, UNITS, SCORES & GRADES | OUTSTANDING COURSES | PREVIOUS TCP | PREVIOUS TNU | PREVIOUS CGPA | PRESENT TCP | PRESENT TNU | PRESENT GPA | FINAL TCP | FINAL TNU | FINAL CGPA | FINAL RMK |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 08/087699 | PHY113(3):40E PHY211(2):21F PHY212(3):37F PHY213(2):25F PHY214(1):46D | PHY122(REP) PHY123(REP) PHY211(REP) PHY213(REP) PHY121(REP) PHY212(REP) | 16 | 18 | 0.00 | 5 | 11 | 0.45 | 21 | 29 | 0.72 | CSO |
| 2 | 08/087700 | PHY211(2):50C PHY212(3):54C PHY213(2):50C PHY214(1):40E | | 37 | 18 | 0.00 | 22 | 8 | 2.75 | 59 | 26 | 2.27 | PAS |
| 3 | 08/087701 | PHY211(2):58C PHY212(3):60B PHY213(2):62B PHY214(1):51C | | 55 | 18 | 0.00 | 29 | 8 | 3.63 | 84 | 26 | 3.23 | PAS |
| 4 | 08/087702 | PHY113(3):40E PHY211(2):51C PHY212(3):46D PHY213(2):40E PHY214(1):50C | PHY123(REP) PHY121(REP) | 26 | 18 | 0.00 | 20 | 11 | 1.82 | 46 | 29 | 1.59 | CSO |
| 5 | 08/087703 | PHY211(2):61B PHY212(3):55C PHY213(2):51C PHY214(1):45D | | 79 | 18 | 0.00 | 25 | 8 | 3.13 | 104 | 26 | 4.00 | PAS |
| 6 | 08/087704 | PHY211(2):60B PHY212(3):61B PHY213(2):51C PHY214(1):51C | | 69 | 18 | 0.00 | 29 | 8 | 3.63 | 98 | 26 | 3.77 | PAS |
| 7 | 08/087705 | PHY211(2):61B PHY212(3):57C PHY213(2):53C PHY214(1):50C | | 36 | 18 | 0.00 | 26 | 8 | 3.25 | 62 | 26 | 2.38 | PAS |
| 8 | 08/087706 | PHY113(3):40E PHY211(2):22F PHY212(3):40E PHY213(2):40E PHY214(1):40E | PHY111(REP) PHY112(REP) PHY122(REP) PHY123(REP) PHY124(REP) PHY211(REP) PHY121(REP) | 6 | 18 | 0.00 | 9 | 11 | 0.82 | 15 | 29 | 0.52 | CSO |
| 9 | 08/087707 | PHY211(2):28F PHY212(3):45D PHY213(2):40E PHY214(1):41E | PHY123(REP) PHY211(REP) PHY121(REP) | 26 | 18 | 0.00 | 9 | 8 | 1.13 | 35 | 26 | 1.35 | CSO |
| 10 | 08/087708 | PHY113(3):40E PHY211(2):18F PHY212(3):40E PHY213(2):12F PHY214(1):47D | PHY111(REP) PHY112(REP) PHY122(REP) PHY123(REP) PHY124(REP) PHY211(REP) PHY213(REP) PHY121(REP) | 4 | 18 | 0.00 | 8 | 11 | 0.73 | 12 | 29 | 0.41 | CSO |
| 11 | 08/087709 | PHY211(2):61B PHY212(3):A.R PHY213(2):70A PHY214(1):58C | PHY212(A.R) | 62 | 18 | 0.00 | 21 | 5 | 4.20 | 83 | 23 | 3.61 | CSO |
| 12 | 08/087710 | PHY211(2):50C PHY212(3):48D PHY213(2):40E PHY214(1):45D | PHY122(REP) | 45 | 18 | 0.00 | 16 | 8 | 2.00 | 61 | 26 | 2.35 | CSO |
| 13 | 08/087711 | PHY211(2):30F PHY212(3):22F PHY213(2):47D PHY214(1):41E | PHY211(REP) PHY212(REP) | 42 | 18 | 0.00 | 5 | 8 | 0.63 | 47 | 26 | 1.81 | CSO |
| 14 | 08/087712 | PHY211(2):62B PHY212(3):52C PHY213(2):43E PHY214(1):51C | | 26 | 18 | 0.00 | 22 | 8 | 2.75 | 48 | 26 | 1.85 | PAS |

Page: 1

for Research Purpose

22/9/2011

# SCHOOL OF SCIENCE

## COURSE COMBINATION: BIO/CHE

## MASTER MARK SHEET

## 2009/2010 SESSION SECOND SEMESTER 200 LEVEL

## SUBJECT: CHEMISTRY

Date: Thursday, 22/Sep/2011

Time: 1:38 PM

| S/NO | MATRIC NUMBER | REGISTERED COURSES, UNITS, SCORES & GRADES | OUTSTANDING COURSES | PREVIOUS TCP | PREVIOUS TNU | PREVIOUS CGPA | PRESENT TCP | PRESENT TNU | PRESENT GPA | FINAL TCP | FINAL TNU | FINAL CGPA | FINAL RMK |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 08/086494 | CHE125(1):58C CHE221(2):55C CHE222(2):62B CHE223(1):40E CHE224(1):46D CHE225(1):54C | CHE215(REP) | 32 | 20 | 0.00 | 23 | 8 | 2.88 | 55 | 28 | 1.96 | CSO |
| 2 | 08/086495 | CHE123(2):68B CHE124(1):47D CHE221(2):40E CHE222(2):51C CHE223(1):42E CHE224(1):40E CHE225(1):76A | CHE214(REP) CHE215(REP) | 29 | 20 | 0.00 | 25 | 10 | 2.50 | 54 | 30 | 1.80 | CSO |
| 3 | 08/086496 | CHE221(2):54C CHE222(2):81A CHE223(1):55C CHE224(1):50C CHE225(1):62B | | 76 | 20 | 0.00 | 26 | 7 | 3.71 | 102 | 27 | 3.78 | PAS |
| 4 | 08/086497 | CHE221(2):A.R CHE222(2):A.R CHE223(1):A.R CHE224(1):A.R CHE225(1):A.R | CHE211(A.R) CHE212(A.R) CHE223(A.R) CHE224(A.R) CHE225(A.R) CHE216(A.R) CHE221(A.R) CHE222(A.R) CHE214(CRF) CHE215(CRF) | 62 | 15 | 0.00 | 0 | 0 | 0.00 | 62 | 15 | 0.00 | CSO |
| 5 | 08/086498 | CHE121(2):20F CHE122(1):15F CHE124(1):40E CHE126(1):27F CHE221(2):26F CHE222(2):44E CHE223(1):41E CHE224(1):40E CHE225(1):21F | CHE122(REP) CHE125(REP) CHE126(REP) CHE211(REP) CHE215(REP) CHE225(REP) CHE216(REP) CHE111(REP) CHE121(REP) CHE112(REP) CHE221(REP) | 11 | 25 | 0.00 | 5 | 12 | 0.42 | 16 | 37 | 0.43 | CSO |
| 6 | 08/086499 | CHE221(2):51C CHE222(2):61B CHE223(1):40E CHE224(1):50C CHE225(1):51C | CHE214(REP) | 50 | 20 | 0.00 | 21 | 7 | 3.00 | 71 | 27 | 2.63 | CSO |
| 7 | 08/086500 | CHE221(2):51C CHE222(2):60B CHE223(1):41E CHE224(1):42E CHE225(1):73A | | 58 | 20 | 0.00 | 21 | 7 | 3.00 | 79 | 27 | 2.93 | PAS |
| 8 | 08/086501 | CHE221(2):41E CHE222(2):52C CHE223(1):15F CHE224(1):40E CHE225(1):60B | CHE223(REP) CHE215(REP) | 43 | 20 | 0.00 | 13 | 7 | 1.86 | 56 | 27 | 2.07 | CSO |
| 9 | 08/086502 | CHE121(2):20F CHE122(1):12F CHE124(1):43E CHE125(1):40E CHE126(1):45D CHE221(2):19F CHE222(2):64B CHE223(1):40E CHE224(1):40E CHE225(1):35F | CHE122(REP) CHE114(REP) CHE115(REP) CHE211(REP) CHE214(REP) CHE215(REP) CHE225(REP) CHE216(REP) CHE111(REP) CHE121(REP) CHE112(REP) CHE221(REP) | 4 | 26 | 0.00 | 14 | 13 | 1.08 | 18 | 39 | 0.46 | CSO |
| 10 | 08/086503 | CHE221(2):52C CHE222(2):55C CHE223(1):24F CHE224(1):41E CHE225(1):56C | CHE223(REP) CHE215(REP) | 32 | 21 | 0.00 | 16 | 7 | 2.29 | 48 | 28 | 1.71 | CSO |
| 11 | 08/086504 | CHE221(2):A.R CHE222(2):A.R CHE223(1):A.R CHE224(1):A.R CHE225(1):A.R | CHE211(A.R) CHE212(A.R) CHE223(A.R) CHE224(A.R) CHE225(A.R) CHE216(A.R) | 0 | 0 | 0.00 | 0 | 0 | 0.00 | 0 | 0 | 0.00 | CSO |

| | NCE 2 Biology - Chemistry | Matric No | GSE 104 |
|---|---|---|---|
| 1 | | 08/ BIO-CHE 01 | C |
| 2 | | 08/ BIO-CHE 02 | B |
| 3 | | 08/ BIO-CHE 03 | C |
| 4 | | 08/ BIO-CHE 04 | A |
| 5 | | 08/ BIO-CHE 05 | A |
| 6 | | 08/ BIO-CHE 06 | A |
| 7 | | 08/ BIO-CHE 07 | A |
| 8 | | 08/ BIO-CHE 08 | E |
| 9 | | 08/ BIO-CHE 09 | C |
| 10 | | 08/ BIO-CHE 10 | |
| 11 | | 08/ BIO-CHE 11 | |
| 12 | | 08/ BIO-CHE 12 | |
| 13 | | 08/ BIO-CHE 13 | A |
| 14 | | 08/ BIO-CHE 14 | C |
| 15 | | 08/ BIO-CHE 15 | B |
| 16 | | 08/ BIO-CHE 16 | C |
| 17 | | 08/ BIO-CHE 17 | C |
| 18 | | 08/ BIO-CHE 18 | B |
| 19 | | 08/ BIO-CHE 19 | |
| 20 | | 08/ BIO-CHE 20 | B |
| 21 | | 08/ BIO-CHE 21 | |
| 22 | | 08/ BIO-CHE 22 | |
| 23 | | 08/ BIO-CHE 23 | C |
| 24 | | 08/ BIO-CHE 24 | C |
| 25 | | 08/ BIO-CHE 25 | A |
| 26 | | 08/ BIO-CHE 26 | C |
| 27 | | 08/ BIO-CHE 27 | D |
| 28 | | 08/ BIO-CHE 28 | C |
| 29 | | 08/ BIO-CHE 29 | A |
| 30 | | 08/ BIO-CHE 30 | A |
| 31 | | 08/ BIO-CHE 31 | |
| 32 | | 08/ BIO-CHE 32 | B |
| 33 | | 08/ BIO-CHE 33 | C |
| 34 | | 08/ BIO-CHE 34 | C |
| 35 | | 08/ BIO-CHE 35 | B |
| 36 | | 08/ BIO-CHE 36 | C |
| 37 | | 08/ BIO-CHE 37 | A |
| 38 | | 08/ BIO-CHE 38 | E |
| 39 | | 08/ BIO-CHE 39 | C |
| 40 | | 08/ BIO-CHE 40 | |
| 41 | | 08/ BIO-CHE 41 | |
| 42 | | 08/ BIO-CHE 42 | A |
| 43 | | 08/ BIO-CHE 43 | |
| 44 | | 08/ BIO-CHE 44 | A |
| 45 | | 08/ BIO-CHE 45 | C |

FEDERAL COLLEGE OF EDUCATION (TECH.) ASABA
SCHOOL OF SCIENCE EDUCATION
BIOLOGY DEPARTMENT, MARK SHEET
SEMESTER.....Two.....2009/2010
COURSE TITLE:.....Language & Comm. II.....
COURSE CODE:...GSE.....104..... UNIT:.....1.....

| S/N | NAME | MATRIC. NO | CW | SE | LG | RMK |
|---|---|---|---|---|---|---|
| 1. | | SSE/08/12652 | 18 | 15 | 33 | F |
| 2. | | SSE/08/12653 | 18 | 30 | 48 | D |
| 3. | | SSE/08/12654 | 27 | 23 | 50 | C |
| 4. | | SSE/08/12655 | 21 | 36 | 57 | C |
| 5. | | SSE/08/12656 | 23 | 35 | 58 | C |
| 6. | | SSE/08/12657 | | | | |
| 7. | | SSE/08/12658 | 20 | 38 | 58 | C |
| 8. | | SSE/08?12659 | 27 | 30 | 57 | C |
| 9. | | SSE/08/12660 | 26 | 32 | 58 | C |
| 10. | | SSE/08/12661 | 23 | 23 | 46 | D |
| 11. | | SSE/08/12662 | 21 | 21 | 42 | E |
| 12. | | SSE/08/12663 | 23 | 24 | 47 | D |
| 13. | | SSe/08/12664 | | | | |
| 14. | | SSE/08/12665 | 17 | 33 | 50 | C |
| 15. | | SSE/08/12666 | 24 | 24 | 48 | D |
| 16. | | SSE/08/12667 | 29 | 38 | 68 | B |
| 17. | | SSE/08/12668 | 27 | 33 | 60 | B |
| 18. | | SSE/08/12669 | 20 | 13 | 33 | F |
| 19. | | SSE/08/12670 | 05 | 05 | 10 | F |
| 20. | | SSE/08/12671 | | | | |
| 21. | | SSE/08/12672 | 27 | 33 | 60 | B |
| 22. | | SSE/08/12673 | 27 | 30 | 57 | C |
| 23. | | SSE/08/12674 | 20 | 35 | 55 | C |
| 24. | | SSE/08/12675 | | | | |
| 25. | | SSE/08/12676 | 24 | 28 | 52 | C |
| 26. | | SSE/08/12677 | 10 | 16 | 26 | F |
| 27. | | SSE/08/12678 | 29 | 34 | 63 | B |
| 28. | | SSE/08/12679 | 26 | 29 | 55 | C |
| 29. | | SSE/08/12680 | | | | |
| 30. | | SSE/08/12681 | 23 | 40 | 63 | B |
| 31. | | SSE/08/12682 | 31 | 47 | 78 | A |
| 32. | | SSE/08/12683 | 21 | 26 | 47 | D |

FEDERAL COLLEE OF EDUCATION (TECHNICAL) ASABA
SCHOOL OF SCIENCE EDUCATION
COMPUTER/CHEMISTRY DEPARTMENT

Done

COURSE TITLE: LANGUAGE & COMMUNICATION III

COURSE CODE: G S E 103 CREDIT UNIT: 1

SESSION: 2009/2010 SEMESTER: 1st

| S/N | NAMES | MATRIC. NO. | CW | SE | TOT | LG | REMARKS |
|---|---|---|---|---|---|---|---|
| 1. | | SSE/08/12758 | 27 | 20 | 47 | D | |
| 2. | | SSE/08/12759 | 28 | 38 | 66 | B | |
| 3. | | SSE/08/12760 | 30 | 35 | 65 | B | |
| 4. | | SSE/08/12761 | 30 | 30 | 60 | B | |
| 5. | | SSE/08/12762 | 26 | 27 | 53 | C | |
| 6. | | SSE/08/12763 | 33 | 37 | 70 | A | |
| 7. | | SSE/08/12764 | 27 | 25 | 52 | C | |
| 8. | | SSE/08/12765 | 30 | 22 | 52 | C | |
| 9. | | SSE/08/12766 | 28 | 27 | 55 | C | |
| 10. | | SSE/08/12820 | | | | | |
| 11. | | SSE/08/12821 | 28 | 20 | 48 | D | |
| 12 | | SSE/08/12838 | 29 | 17 | 46 | D | |

LECTURER'S SIGN: NZEREM, T.A.N. EBOH-NZEKWE, R.(MRS) DATE: 2/7/10

MODERATOR'S SIGN: Fr Anene-Boy DATE: 29/9/10

FEDERAL COLLEE OF EDUCATION (TECHNICAL) ASABA
SCHOOL OF SCIENCE EDUCATION
COMPUTER/CHEMISTRY DEPARTMENT

Done

COURSE TITLE: LANGUAGE & COMMUNICATION III

COURSE CODE: G S E 103 CREDIT UNIT: 1

SESSION: 2009/2010 SEMESTER: 1 st

| S/N | NAMES | MATRIC. NO. | CW | SE | TOT | LG | REMARKS |
|---|---|---|---|---|---|---|---|
| 1. | | SSE/08/12758 | 27 | 20 | 47 | D | |
| 2. | | SSE/08/12759 | 28 | 38 | 66 | B | |
| 3. | | SSE/08/12760 | 30 | 35 | 65 | B | |
| 4. | | SSE/08/12761 | 30 | 30 | 60 | B | |
| 5. | | SSE/08/12762 | 26 | 27 | 53 | C | |
| 6. | | SSE/08/12763 | 33 | 37 | 70 | A | |
| 7. | | SSE/08/12764 | 27 | 25 | 52 | C | |
| 8. | | SSE/08/12765 | 30 | 22 | 52 | C | |
| 9. | | SSE/08/12766 | 28 | 27 | 55 | C | |
| 10. | | SSE/08/12820 | | | | | |
| 11. | | SSE/08/12821 | 28 | 20 | 48 | D | |
| 12 | | SSE/08/12838 | 29 | 17 | 46 | D | |

LECTURER'S SIGN: NZEREM, T.A.N. EBOH-NZEKWE, R.(MRS) DATE: 2/7/10

MODERATOR'S SIGN: Fr Anene-Boyle DATE: 29/9/10

FEDERAL COLLEE OF EDUCATION (TECHNICAL) ASABA
SCHOOL OF SCIENCE EDUCATION
COMPUTER/CHEMISTRY DEPARTMENT

Done

COURSE TITLE: LANGUAGE & COMMUNICATION III
COURSE CODE: G S E 103 CREDIT UNIT: 1
SESSION: 2009/2010 SEMESTER: 1 st

| S/N | NAMES | MATRIC. NO | CW | SE | TOT | LG | REMARKS |
|---|---|---|---|---|---|---|---|
| 1. | | SSE/08/12758 | 27 | 20 | 47 | D | |
| 2. | | SSE/08/12759 | 28 | 38 | 66 | B | |
| 3. | | SSE/08/12760 | 30 | 35 | 65 | B | |
| 4. | | SSE/08/12761 | 30 | 30 | 60 | B | |
| 5. | | SSE/08/12762 | 26 | 27 | 53 | C | |
| 6. | | SSE/08/12763 | 33 | 37 | 70 | A | |
| 7. | | SSE/08/12764 | 27 | 25 | 52 | C | |
| 8. | | SSE/08/12765 | 30 | 22 | 52 | C | |
| 9. | | SSE/08/12766 | 28 | 27 | 55 | C | |
| 10. | | SSE/08/12820 | | | | | |
| 11. | | SSE/08/12821 | 28 | 20 | 48 | D | |
| 12 | | SSE/08/12838 | 29 | 17 | 46 | D | |

LECTURER'S SIGN: NZEREM, T.A.N. EBOH-NZEKWE, R.(MRS) DATE: 21/7/10

MODERATOR'S SIGN: For Anene-Boyle DATE: 29/9/10

FEDERAL COLLEGE OF EDUCATION (TECHNICAL), UMUNZE

SCHOOLOF SCIENCES

2009/2010 ACADEMIC SESSION

BIOLOGY DEPARTMENT YEAR: II

SUMMARY OF FIRST SEMESTER EXAMINATION RESULTS

| N | COURSE CODE | COURSE TITLE | CREDIT UNIT | NO REG. | NO TOOK EXAM | NO ABS. | GRADE DISTRIBUTION | | | | | | NO PASSED | NO. FAILED | RMK |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | A | B | C | D | E | F | | | |
| | BIO 213 | Research Methods and Biometry | 2 | 78 | 76 | 2 | 7 | 6 | 18 | 9 | 22 | 14 | 62 | 14 | |
| | BIO 214 | Genetics | 1 | 72 | 72 | - | 9 | 16 | 19 | 10 | 10 | 8 | 64 | 8 | |
| | BIO 215 | Biology Methods II | 1 | 63 | 61 | 2 | 12 | 14 | 18 | 6 | 8 | 3 | 58 | 3 | |
| | BIO 216 | Biology Practical II | 1 | 65 | 65 | - | 1 | 19 | 39 | 4 | 2 | - | 65 | - | |
| | BIO 221 | Plant Physiology | 2 | 73 | 72 | 1 | 5 | 12 | 17 | 7 | 25 | 6 | 66 | 6 | |
| | CSC 212 | Introduction to Operations Research | 1 | 83 | 83 | - | 4 | 11 | 15 | 15 | 24 | 14 | 69 | 14 | |
| | CSC 213 | Date Base Management I | 2 | 70 | 69 | 1 | 2 | 8 | 15 | 7 | 34 | 3 | 66 | 3 | |
| | CSC 215 | Computer Logic | 2 | 62 | 62 | - | 7 | 18 | 15 | 6 | 11 | 5 | 57 | 5 | |
| | CSC 325 | Introduction to Networking | 2 | 73 | 72 | 1 | 8 | 22 | 18 | 8 | 11 | 5 | 67 | 5 | |
| | EDU 113 | Principles and Methods of Teaching | 2 | 60 | 60 | - | 19 | 19 | 18 | 2 | 2 | - | 60 | - | |
| | EDU 211 | Philosophy of Education | 2 | 64 | 64 | - | 7 | 16 | 15 | 8 | 12 | 6 | 58 | 6 | |
| | EDU 212 | Educational Technology (Theory and Practice) | 2 | 73 | 73 | - | 8 | 13 | 23 | 6 | 17 | 6 | 67 | 6 | |
| | EDU 214 | Curriculum Studies I | 1 | 60 | 60 | - | 5 | 9 | 21 | 12 | 7 | 6 | 54 | 6 | |
| | EDU 221 | Introduction to Special Education | 2 | 77 | 77 | - | 16 | 19 | 17 | 8 | 11 | 6 | 71 | 6 | |
| | GSE 105 | General English (Language and Communication Skills) III | 1 | 94 | 94 | - | 10 | 14 | 21 | 14 | 23 | 12 | 82 | 12 | |
| | GSE 106 | Basic General Mathematics | 1 | 70 | 70 | - | 18 | 11 | 15 | 8 | 10 | 8 | 62 | 8 | |

DEAN OF SCHOOL:..... 6/9/2010 CHAIRMAN, ACADEMIC BOARD:.....

SIGNATURE/DATE SIGNATURE/DATE

FEDERAL COLLEGE OF EDUCATION (TECHNICAL), UMUNZE
(SCHOOL OF SCIENCES)
DEPARTMENT OF BIOLOGY EDUCATION YEAR II
2008/2009 ACADEMIC SESSION
SUMMARY OF SECOND SEMESTER EXAMINATION RESULTS

| S/N | COURSE CODE | COURSE TITLE | CREDIT UNIT | NO. REG. | NO TOOK EXAM | NO ABSENT | GRADE DISTRIBUTION | | | | | | NO PASSED | NO FAILED | RMKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | A | B | C | D | E | F | | | |
| 1. | BIO 223 | ECOLOGY II | 2 | 98 | 97 | 1 | 9 | 19 | 28 | 10 | 21 | 10 | 87 | 10 | |
| 2. | BIO 224 | BIOLOGY PRACTICALS IV | 1 | 97 | 97 | - | 10 | 22 | 43 | 13 | 9 | - | 97 | - | |
| 3. | BIO 311 | EVOLUTION | 1 | 102 | 101 | 1 | 8 | 12 | 22 | 18 | 28 | 13 | 88 | 13 | |
| 4. | BIO 312 | VERTEBRATE ANATOMY AND PHYSIOLOGY | 3 | 102 | 100 | 2 | 10 | 24 | 37 | 10 | 13 | 6 | 94 | 6 | |
| 5. | BIO 314 | PLANT PATHOLOGY | 1 | 102 | 100 | 2 | 20 | 24 | 29 | 10 | 15 | 2 | 98 | 2 | |
| 6. | BIO 325 | DESIGN PROJECT | 1 | 99 | 97 | 2 | 13 | 64 | 20 | - | - | - | 97 | - | |
| 7. | CSC 221 | PASCHAL PROGRAMMING LANGUAGE | 2 | 103 | 97 | 6 | 30 | 36 | 21 | 4 | 1 | 5 | 92 | 5 | |
| 8. | CSC 222 | OPERATING SYSTEM/WINDOWS APPLICATION | 2 | 97 | 97 | - | 24 | 12 | 21 | 14 | 19 | 7 | 90 | 7 | |
| 9. | CSC 223 | INTRODUCTION TO NUMERICAL METHODS | 1 | 98 | 98 | - | 5 | 9 | 16 | 9 | 34 | 25 | 73 | 25 | |
| 10. | CSC 224 | THE TEACHING OF COMPUTER SCIENCE II | 2 | 96 | 96 | - | 26 | 28 | 31 | 6 | 5 | - | 96 | - | |
| 11. | EDU 213 | MICRO TEACHING: THEORY & PRACTICE | 2 | 95 | 94 | 1 | 8 | 42 | 40 | 3 | 1 | - | 94 | - | |
| 12. | EDU 222 | INTRODUCTION TO RESEARCH METHODS | 2 | 115 | 114 | 1 | - | 12 | 27 | 8 | 36 | 31 | 83 | 31 | |
| 13. | EDU 223 | MEASUREMENT & EVALUATION | 2 | 98 | 98 | - | - | 6 | 25 | 12 | 30 | 25 | 73 | 25 | |
| 14. | GSE 104 | GENERAL ENGLISH (LANGUAGE & COMMUNICATION SKILLS) IV | 1 | 121 | 121 | - | 13 | 17 | 36 | 10 | 27 | 18 | 103 | 18 | |
| 15. | GSE 108 | INTRODUCTION TO COMPUTER STUDIES | 1 | 104 | 103 | 1 | 18 | 31 | 29 | 13 | 8 | 4 | 99 | 4 | |
| 16. | GSE 109 | CITIZENSHIP EDUCATION | 1 | 97 | 95 | 2 | 20 | 48 | 22 | 3 | 1 | 1 | 94 | 1 | |

DEAN OF SCHOOL: C. 20/11/2009
SIGNATURE & DATE

CHAIRMAN, ACADEMIC BOARD: _____
SIGNATURE & DATE

G·S 101



# NWAFOR ORIZU COLLEGE OF EDUCATION, NSUGBE
## DIVISION OF GENERAL STUDIES
### *STAGE I RESULT SHEET: 2008/2009 MATRICULA*
### *SCHOOL OF SCIENCES*

*Course No:* 101 *Course Title* _____

*Compulsory/Optional* _____ *Credit Hour(s)* _____ *Semester* 1st

| S/N | Name | Reg. No. | Subj. Comb. | C.A. 1 | C.A. 2 | C.A. 3 | Final Exam. | Total Score | Grade | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|
| 1. | [redacted] | 2008/11001 | BIO/ CHEM | 28 | | | 38 | 66 | B | |
| 2. | | 2008/11002 | " | 26 | | | 36 | 62 | B | |
| 3. | | 2008/11003 | " | 25 | | | 35 | 60 | B | |
| 4. | | 2008/11004 | " | 27 | | | 37 | 64 | B | |
| 5. | | 2008/11005 | " | 27 | | | 37 | 64 | B | |
| 6. | | 2008/11006 | " | 27 | | | 37 | 64 | B | |
| 7. | | 2008/11008 | " | 26 | | | 28 | 50 | C | |
| 8. | | 2008/11009 | " | 30 | | | 40 | 70 | A | |
| 9. | | 2008/11011 | " | 31 | | | 41 | 72 | A | |
| 10. | | 2008/11012 | " | 28 | | | 38 | 66 | B | |
| 11. | | 2008/11013 | " | 31 | | | 41 | 72 | A | |
| 12. | | 2008/11014 | " | 32 | | | 42 | 74 | A | |
| 13. | | 2008/11015 | " | 27 | | | 37 | 64 | B | |
| 14. | | 2008/11016 | " | 32 | | | 42 | 74 | A | |
| 15. | | 2008/11017 | " | 26 | | | 36 | 62 | B | |
| 16. | | 2008/11019 | " | 32 | | | 42 | 74 | A | |
| 17. | | | | | | | | | | |
| 18. | | | | | | | | | | |
| 19. | | | | | | | | | | |
| 20. | | | | | | | | | | |
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| 38. | | | | | | | | | | |
| 39 | | | | | | | | | | |

NWAFOR ORIZU COLLEGE OF EDUCATION, NSUGBE
DEPARTMENT OF CHEMISTRY
STAGE ONE RESULT SHEET
N.C.E. PROGRAMME

SCHOOL: N.C.C.E. Nsugbe
COURSE NO: Chm 221
CREDIT HOURS:
NAME OF LECTURER(S) Nnoli J. Nms
COURSE TITLE: Chemical Equilibrium
COMPULSORY:

ACADEMIC YEAR: 2009/2010
SEMESTER: 2nd
DEPARTMENT: Chemistry
CREDIT LOAD:
YEAR OF STUDY: Yr. II

| S/NO. | NAME OF STUDENTS | REG. NO. | CONT.ASSM | SUB.COMB. | EXAM | TOTAL | GRADE |
|---|---|---|---|---|---|---|---|
| 1. | | 2008/11001 | 33 | BIO/CHEM | 37 | 70 | A |
| 2. | | " 11002 | 28 | " | 35 | 63 | B |
| 3. | | " 11003 | 25 | " | 33 | 58 | C |
| 4. | | " 11004 | 27 | " | 52 | 79 | A |
| 5. | | " 11005 | 30 | " | 47 | 77 | A |
| 6. | | " 11006 | 31 | " | 45 | 76 | A |
| 7. | | " 11008 | 21 | " | 25 | 46 | D |
| 8. | | " 11009 | 30 | " | 38 | 68 | B |
| 9. | | " 11011 | 22 | " | 51 | 73 | A |
| 10. | | " 11012 | 28 | " | 47 | 75 | A |
| 11. | | " 11013 | 25 | " | 33 | 58 | C |

To: THE EXTERNAL EXAMINER.

# PHY221: WORKSHOP PRACTICE RESULT

NOTE: 1. C.A: Assessment of the excursion report of the students to a manufacturing company (30%)

2. S.E: Assessment by all the lecturers in the department of the defended individual students construction works (70%)

MENDU. W.M
H.O.D. PHYSICS

0/10

0/10

FEDERAL COLLEGE OF EDUCATION, KONTAGORA
SCHOOL OF EDUCATION
PRIMARY EDUCATION STUDIES DEPARTMENT

Academy

.....1.....SEMESTER .....2009/2010 .....SESSION
COURSE TITLE.....Engl. & Comm. Skill..... COURSE CODE.....GSE103.....
STATUS.....comp..... NO. OF CREDITS.....1.....

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 2008/0001 | 2 | | 3 | | | | 5 | 10 | 15 | F | FAIL |
| 2 | 2008/0002 | 19 | 15 | | | | | 34 | 26 | 60 | B | PASS |
| 3 | 2008/0003 | 16 | | 10 | | | | 26 | 26 | 52 | C | PASS |
| 4 | 2008/0004 | 24 | 23 | | | | | 47 | 26 | 73 | A | PASS |
| 5 | 2008/0005 | | 5 | 2 | | | | 7 | 10 | 17 | F | FAIL |
| 6 | 2008/0006 | 16 | 12 | | | | | 28 | 26 | 54 | C | PASS |
| 7 | 2008/0007 | 3 | | 6 | | | | 9 | 12 | 21 | F | FAIL |
| 8 | 2008/0008 | 19 | 20 | | | | | 39 | 26 | 65 | B | PASS |
| 9 | 2008/0009 | 5 | 0 | | | | | 5 | 10 | 15 | F | FAIL |
| 10 | 2008/0010 | 14 | 12 | | | | 24 | 50 | 0 | 50 | C | PASS |
| 11 | 2008/0011 | 21 | | 9 | | | | 30 | 26 | 56 | C | PASS |
| 12 | 2008/0012 | 21 | 19 | | | | | 40 | 26 | 66 | B | PASS |
| 13 | 2008/0013 | | 21 | 20 | | | | 41 | 24 | 65 | B | PASS |
| 14 | 2008/0014 | | 7 | 9 | | | | 16 | 24 | 40 | E | PASS |
| 15 | 2008/0015 | 18 | 19 | | | | | 37 | 24 | 61 | B | PASS |
| 16 | 2008/0016 | 17 | 18 | | | | | 35 | 26 | 61 | B | PASS |
| 17 | 2008/0017 | 16 | | 15 | | | | 31 | 24 | 55 | C | PASS |
| 18 | 2008/0018 | 14 | 12 | | | | | 26 | 24 | 50 | C | PASS |
| 19 | 2008/0019 | 0 | | 0 | | | | 0 | 10 | 10 | F | FAIL |
| 20 | 2008/0020 | 6 | 11 | | | | | 17 | 26 | 43 | E | PASS |
| 21 | 2008/0021 | | 5 | 3 | | | | 8 | 12 | 20 | F | FAIL |
| 22 | 2008/0022 | | 12 | 6 | | | | 18 | 24 | 42 | E | PASS |
| 23 | 2008/0023 | 3 | | 2 | | | | 5 | 10 | 15 | F | FAIL |
| 24 | 2008/0024 | 5 | | 0 | | | | 5 | 10 | 15 | F | FAIL |
| 25 | 2008/0025 | 8 | | 15 | | | | 23 | 24 | 47 | D | PASS |
| 26 | 2008/0026 | 19 | 25 | | | | | 44 | 02 | 46 | D | PASS |
| 27 | 2008/0027 | 5 | | 2 | | | | 7 | 10 | 17 | F | FAIL |
| 28 | 2008/0028 | 6 | 5 | | | | | 11 | 12 | 23 | F | FAIL |
| 29 | 2008/0029 | | 0 | 0 | | | | 0 | 8 | 8 | F | FAIL |
| 30 | 2008/0030 | 24 | 23 | | | | | 47 | 26 | 73 | A | PASS |
| 31 | 2008/0031 | 14 | 10 | | | | | 24 | 24 | 48 | D | PASS |
| 32 | 2008/0032 | 17 | | 15 | | | | 32 | 24 | 56 | C | PASS |
| 33 | 2008/0033 | | 6 | 5 | | | | 11 | 10 | 21 | F | FAIL |
| 34 | 2008/0034 | 4 | | 0 | | | | 4 | 10 | 14 | F | FAIL |
| 35 | 2008/0035 | | 12 | 7 | | | | 19 | 26 | 45 | D | PASS |
| 36 | 2008/0036 | 15 | 15 | | | | | 30 | 26 | 56 | C | PASS |
| 37 | 2008/0037 | 12 | 6 | | | | | 18 | 27 | 45 | D | PASS |
| 38 | 2008/0038 | 15 | | 18 | | | | 33 | 24 | 57 | C | PASS |
| 39 | 2008/0039 | 13 | | 8 | | | | 21 | 24 | 45 | D | PASS |
| 40 | 2008/0040 | 13 | 12 | | | | | 25 | 26 | 51 | C | PASS |
| 41 | 2008/0041 | 17 | | 12 | | | | 29 | 24 | 53 | C | PASS |
| 42 | 2008/0042 | 3 | | 2 | | | | 5 | 10 | 15 | F | FAIL |
| 43 | 2008/0043 | 22 | | 23 | | | | 45 | 26 | 71 | A | PASS |
| 44 | 2008/0044 | 2 | | 6 | | | | 8 | 10 | 18 | F | FAIL |

Name of lecturer i/C: Ukaegbu J. Sign..... Date..06/07/2010
Name of Vetting Officer: Bulus C.B (Mrs) Sign..... Date..28/7/2010
Name of Dean: Akubo A. Sign..... Date..28/7/10

**FEDERAL COLLEGE OF EDUCATION, KONTAGORA.**
**ACADEMIC OFFICE**

2ND SEMESTER / ~~CONTACT~~
SUBJECT G. S. E LEVEL 100
TITTLE E.N.G. & COM. SKILLS
COURSE CODE G. S. E 102 NO OF CREDITS 1

| S/No | Mat. No. 2008/ | Q1 | Q2 | Q3 | Q4 | Q5 | Q6 | Exam 60% | C.A. 40% | Total 100% | Grade | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 249 | 278 | 10 | 0 | 0 | 01 | | | 11 | 11 | 22 | F | FAILED |
| - | - | - | - | - | - | | | - | - | - | - | - |
| 250 | 280 | 02 | 06 | 08 | 0 | | | 16 | 26 | 42 | E | PASSED |
| 251 | 281 | 0 | 07 | 05 | 00 | | | 12 | 10 | 22 | F | FAILED |
| 252 | 291 | 06 | 08 | 15 | 13 | | | 42 | 26 | 68 | B | PASSED |
| 253 | 292 | 13 | 07 | 04 | 07 | | | 31 | 24 | 55 | C | " |
| 254 | 293 | 06 | 07 | 08 | 18 | | | 39 | 26 | 65 | B | " |
| 255 | 294 | 0 | 09 | 04 | 07 | | | 20 | 22 | 42 | E | " |
| 256 | 295 | 08 | 05 | 05 | 07 | | | 25 | 26 | 51 | C | " |
| 257 | 296 | 18 | 05 | 07 | 15 | | | 45 | 26 | 71 | A | " |
| 258 | 297 | 05 | 06 | 0 | 0 | | | 11 | 10 | 21 | F | FAILED |
| 259 | 298 | 04 | 07 | 06 | 08 | | | 25 | 20 | 45 | D | PASSED |
| 260 | 299 | 02 | 02 | 05 | 07 | | | 16 | 24 | 40 | E | " |
| 261 | 300 | 04 | 10 | 07 | 08 | | | 29 | 24 | 53 | C | " |
| 262 | 301 | 02 | 09 | 09 | 05 | | | 25 | 22 | 47 | D | " |
| 263 | 302 | 08 | 04 | 08 | 07 | | | 27 | 24 | 51 | C | " |
| 264 | 303 | 03 | 08 | 13 | 09 | | | 33 | 22 | 55 | C | " |
| 265 | 304 | 07 | 07 | 12 | 10 | | | 36 | 24 | 60 | B | " |
| 266 | 305 | 0 | 07 | 12 | 11 | | | 30 | 26 | 56 | C | " |
| 267 | 306 | 08 | 05 | 12 | 02 | | | 27 | 24 | 51 | C | " |
| 268 | 307 | 12 | 03 | 12 | 07 | | | 34 | 24 | 58 | C | " |
| 269 | 308 | 05 | 06 | 08 | 07 | | | 26 | 22 | 48 | D | " |
| 270 | 309 | 06 | 06 | 11 | 05 | | | 28 | 22 | 50 | C | " |
| 271 | 310 | 16 | 03 | 07 | 08 | | | 34 | 24 | 58 | C | " |
| 272 | 311 | 06 | 08 | 12 | 11 | | | 37 | 24 | 61 | B | " |
| 273 | 312 | 08 | 08 | 0 | 08 | | | 24 | 22 | 46 | D | " |
| 274 | 313 | 08 | 10 | 08 | 0 | | | 26 | 24 | 50 | C | " |
| 275 | 314 | 07 | 07 | 08 | - | | | 22 | 22 | 44 | E | " |
| 276 | 315 | 04 | 04 | 05 | 05 | | | 18 | 24 | 42 | E | " |
| 277 | 316 | 02 | 02 | 07 | 05 | | | 16 | 24 | 40 | E | " |
| 278 | 317 | 06 | 06 | 13 | 14 | | | 39 | 24 | 63 | B | " |
| 279 | 318 | 07 | 10 | 16 | 10 | | | 43 | 22 | 65 | B | " |
| 280 | 319 | 05 | 03 | 07 | 01 | | | 16 | 24 | 40 | E | " |
| 281 | 320 | 08 | 08 | 10 | 10 | | | 36 | 24 | 60 | B | " |
| 282 | 321 | 07 | 04 | 04 | 09 | | | 28 | 24 | 52 | C | " |
| 283 | 322 | 06 | 04 | 18 | 18 | | | 46 | 24 | 70 | A | " |
| 284 | 323 | 08 | 05 | 04 | 02 | | | 19 | 24 | 43 | E | " |
| 285 | 324 | 06 | 04 | 07 | 02 | | | 19 | 24 | 43 | E | " |
| 286 | 325 | 05 | 05 | 07 | 01 | | | 18 | 24 | 42 | E | " |
| 287 | 326 | 06 | 04 | 14 | 18 | | | 42 | 22 | 64 | B | " |
| 288 | 327 | 09 | 07 | 06 | 03 | | | 25 | 22 | 47 | D | " |
| 289 | 328 | 06 | 03 | 02 | 05 | | | 16 | 24 | 40 | E | " |
| 290 | 330 | 05 | 01 | 08 | 02 | | | 16 | 26 | 42 | E | " |
| 291 | 331 | 10 | 16 | 06 | 14 | | | 46 | 26 | 72 | A | " |
| 292 | 332 | 01 | 01 | 05 | 05 | | | 12 | 14 | 26 | F | FAILED |
| 293 | 333 | 0 | 05 | 05 | 0 | | | 10 | 11 | 21 | F | FAILED |
| 294 | 334 | 04 | 08 | 11 | 07 | | | 30 | 26 | 56 | C | PASSED |
| 295 | 335 | 05 | 01 | 05 | - | | | 11 | 10 | 21 | F | FAILED |
| 296 | 336 | 08 | 15 | 14 | 18 | | | 55 | 26 | 81 | A | PASSED |
| 297 | 337 | 09 | 10 | 08 | 10 | | | 37 | 26 | 63 | B | " |

Name of Lecturer in Charge

SCHOOL OF EDUCATION
PRIMARY EDUCATION STUDIES DEPARTMENT

.....I.....SEMESTER .....2009/2010 .....SESSION
COURSE TITLE.....
STATUS.....
COURSE CODE.....GSE103.....
NO. OF CREDITS.....1.....

| S/N | Matric | Q1 | Q2 | Q3 | Q4 | Q5 | Q6 | Exam | CA | Total | Grade | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 221 | 2008/0253 | 19 | 6 | | | | | 25 | 26 | 51 | C | PA |
| 222 | 2008/0254 | 28 | 10 | | | | | 38 | 24 | 62 | B | PA |
| 223 | 2008/0255 | 26 | | 14 | | | | 40 | 22 | 62 | B | PA |
| 224 | 2008/0256 | 17 | 2 | | | | | 19 | 24 | 43 | E | PA |
| 225 | 2008/0257 | | 15 | 15 | | | | 30 | 24 | 54 | C | PA |
| 226 | 2008/0258 | | 8 | 8 | | | | 16 | 24 | 40 | E | PA |
| 227 | 2008/0259 | 6 | | 3 | | | | 9 | 24 | 33 | F | FA |
| 228 | 2008/0260 | 24 | | 15 | | | | 39 | 26 | 65 | B | PA |
| 229 | 2008/0261 | 14 | 9 | | | | | 23 | 24 | 47 | D | PA |
| 230 | 2008/0262 | 22 | | 3 | | | | 25 | 22 | 47 | D | PA |
| 231 | 2008/0263 | 10 | | 13 | | | | 23 | 22 | 45 | D | PA |
| 232 | 2008/0265 | 6 | | 4 | | | | 10 | 10 | 20 | F | FA |
| 233 | 2008/0266 | | 18 | 11 | | | | 29 | 22 | 51 | C | PA |
| 234 | 2008/0267 | 22 | 28 | | | | | 50 | 26 | 76 | A | PA |
| 235 | 2008/0269 | 19 | | 20 | | | | 39 | 24 | 63 | B | PA |
| 236 | 2008/0270 | 11 | | 8 | | | | 19 | 24 | 43 | E | PA |
| 237 | 2008/0271 | 2 | | 17 | | | | 19 | 24 | 43 | E | PA |
| 238 | 2008/0272 | 6 | | 0 | | | | 6 | 10 | 16 | F | FA |
| 239 | 2008/0273 | 20 | | 6 | | | | 26 | 24 | 50 | C | PA |
| 240 | 2008/0274 | 4 | 7 | | | | | 11 | 10 | 21 | F | FA |
| 241 | 2008/0275 | 25 | 28 | | | | | 53 | 24 | 77 | A | PA |
| 242 | 2008/0276 | 13 | 13 | | | | | 26 | 24 | 50 | C | PA |
| 243 | 2008/0277 | 0 | 2 | | | | | 2 | 10 | 12 | F | FA |
| 244 | 2008/0278 | 4 | 17 | | | | | 21 | 24 | 45 | D | PA |
| 245 | 2008/0280 | | 0 | 0 | | | | 0 | 10 | 10 | F | FA |
| 246 | 2008/0291 | 28 | 19 | | | | | 47 | 26 | 73 | A | PA |
| 247 | 2008/0292 | 19 | 19 | | | | | 38 | 24 | 62 | B | PA |
| 248 | 2008/0293 | 24 | | 24 | | | | 48 | 24 | 72 | A | PA |
| 249 | 2008/0294 | 14 | | 6 | | | | 20 | 20 | 40 | E | PA |
| 250 | 2008/0295 | 17 | 21 | | | | | 38 | 24 | 62 | B | PA |
| 251 | 2008/0296 | 25 | | 18 | | | | 43 | 22 | 65 | B | PA |
| 252 | 2008/0297 | 7 | | 5 | | | | 12 | 18 | 30 | F | FA |
| 253 | 2008/0298 | 21 | 16 | | | | | 37 | 24 | 61 | B | PA |
| 254 | 2008/0299 | 22 | | 13 | | | | 35 | 26 | 61 | B | PA |
| 255 | 2008/0300 | 13 | 14 | | | | | 27 | 24 | 51 | C | PA |
| 256 | 2008/0301 | 5 | 14 | | | | | 19 | 24 | 43 | E | PA |
| 257 | 2008/0302 | 19 | 14 | | | | | 33 | 22 | 55 | C | PA |
| 258 | 2008/0303 | 17 | 8 | | | | | 25 | 26 | 51 | C | PA |
| 259 | 2008/0304 | 23 | 7 | | | | | 30 | 24 | 54 | C | PA |
| 260 | 2008/0305 | 22 | | 18 | | | | 40 | 24 | 64 | B | PA |
| 261 | 2008/0306 | 24 | 17 | | | | | 41 | 24 | 65 | B | PA |
| 262 | 2008/0307 | 26 | | 19 | | | | 45 | 26 | 71 | A | PA |
| 263 | 2008/0308 | 19 | 27 | | | | | 46 | 26 | 72 | A | PA |
| 264 | 2008/0309 | | 0 | 0 | | | | 0 | 0 | 0 | F | FA |

Name of lecturer i/C:..... Sign..... Date.....
Name of Vetting Officer:..... Sign..... Date.....
Name of Dean:..... Sign..... Date.....

FEDERAL COLLEE OF EDUCATION (TECHNICAL) ASABA
SCHOOL OF SCIENCE EDUCATION
COMPUTER/CHEMISTRY DEPARTMENT

DONE

COURSE TITLE: Chemical Equilibrium
COURSE CODE: Che 221 CREDIT UNIT: 2
SESSION: ..... SEMESTER: .....

| S/N | NAMES | MATRIC. NO. | CW | SE | TOT | LG | REMARKS |
|---|---|---|---|---|---|---|---|
| 1. | | SSE/08/12758 | 27 | 24 | 51 | C | |
| 2. | | SSE/08/12759 | 35 | 51 | 86 | A | |
| 3. | | SSE/08/12760 | 33 | 47 | 80 | A | |
| 4. | | SSE/08/12761 | 28 | 28 | 56 | C | |
| 5. | | SSE/08/12762 | 02 | 23 | 25 | F | |
| 6. | | SSE/08/12763 | 27 | 24 | 51 | C | |
| 7. | | SSE/08/12764 | 13 | 28 | 41 | E | |
| 8. | | SSE/08/12765 | 19 | 35 | 54 | C | |
| 9. | | SSE/08/12766 | 21 | 19 | 40 | E | |
| 10. | | SSE/08/12820 | – | – | – | – | |
| 11. | | SSE/08/12821 | 17 | 12 | 29 | F | |
| 12 | | SSE/08/12838 | 25 | 32 | 57 | C | |

LECTURER'S SIGN: ..... DATE: 17/09/10

MODERATOR'S SIGN: ..... DATE: 15/4/12

Signature: ..... Date: .....

FEDERAL COLLEE OF EDUCATION (TECHNICAL) ASABA
SCHOOL OF SCIENCE EDUCATION
COMPUTER/CHEMISTRY DEPARTMENT

Done

COURSE TITLE: Chemical Equilibrium
COURSE CODE: Che 221 CREDIT UNIT: 2
SESSION: ..... SEMESTER: .....

| S/N | NAMES | MATRIC. NO. | CW | SE | TOT | LG | REMARKS |
|---|---|---|---|---|---|---|---|
| 1. | | SSE/08/12758 | 27 | 24 | 51 | C | |
| 2. | | SSE/08/12759 | 35 | 51 | 86 | A | |
| 3. | | SSE/08/12760 | 33 | 47 | 80 | A | |
| 4. | | SSE/08/12761 | 28 | 28 | 56 | C | |
| 5. | | SSE/08/12762 | 02 | 23 | 25 | F | |
| 6. | | SSE/08/12763 | 27 | 24 | 51 | C | |
| 7. | | SSE/08/12764 | 13 | 28 | 41 | E | |
| 8. | | SSE/08/12765 | 19 | 35 | 54 | C | |
| 9. | | SSE/08/12766 | 21 | 19 | 40 | E | |
| 10. | | SSE/08/12820 | – | – | – | – | |
| 11. | | SSE/08/12821 | 17 | 12 | 29 | F | |
| 12 | | SSE/08/12838 | 25 | 32 | 57 | C | |

LECTURER'S SIGN: ..... DATE: 17/09/10

MODERATOR'S SIGN: ..... DATE: 15/9/10

Signature: ..... Date: .....

Done

FEDERAL COLLEGE OF EDUCATION (TECH.) ASABA
SCHOOL OF SCIENCE EDUCATION
BIOLOGY DEPARTMENT, MARK SHEET
SEMESTER..... SECOND .....2008/2009.
COURSE TITLE:..... PLANT PHYSIOLOGY .....
COURSE CODE:..... BIO 221 ..... UNIT:..... 2 .....

| S/N | NAME | MATRIC. NO | CW | SE | LG | RMK |
|---|---|---|---|---|---|---|
| 1. | | SE/08/12652 | 25 | 08 | 33 | F |
| 2. | | SE/08/12653 | 32 | 35 | 67 | B |
| 3. | | SE/08/12654 | 20 | 25 | 45 | D |
| 4. | | SE/08/12655 | AB | AB | AB | AB |
| 5. | | SE/08/12656 | 30 | 36 | 66 | B |
| 6. | | SE/08/12657 | AB | AB | AB | AB |
| 7. | | SE/08/12658 | 30 | 49 | 79 | A |
| 8. | | SE/08?12659 | 25 | 31 | 56 | C |
| 9. | | SE/08/12660 | 26 | 38 | 64 | B |
| 10. | | SE/08/12661 | 27 | 39 | 66 | B |
| 11. | | SE/08/12662 | AB | AB | AB | AB |
| 12. | | SE/08/12663 | 20 | 30 | 50 | C |
| 13. | | Se/08/12664 | AB | AB | AB | AB |
| 14. | | SE/08/12665 | 31 | 43 | 74 | A |
| 15. | | SE/08/12666 | 22 | 20 | 42 | E |
| 16. | | SE/08/12667 | 30 | 43 | 73 | A |
| 17. | | SE/08/12668 | 35 | 51 | 86 | A |
| 18. | | SE/08/12669 | AB | AB | AB | AB |
| 19. | | SE/08/12670 | AB | AB | AB | AB |
| 20. | | SE/08/12671 | AB | AB | AB | AB |
| 21. | | SE/08/12672 | 25 | 30 | 55 | C |
| 22. | | SE/08/12673 | 24 | 25 | 49 | D |
| 23. | | SE/08/12674 | 30 | 42 | 72 | A |
| 24. | | SE/08/12675 | AB | AB | AB | AB |
| 25. | | SE/08/12676 | AB | AB | AB | AB |
| 26. | | SE/08/12677 | 25 | 20 | 45 | D |
| 27. | | SE/08/12678 | 26 | 26 | 52 | C |
| 28. | | SE/08/12679 | AB | AB | AB | AB |
| 29. | | SE/08/12680 | AB | AB | AB | AB |
| 30. | | SE/08/12681 | 33 | 51 | 84 | A |
| 31. | NWAMMA, Oziudo Serah (miss) | SE/08/12682 | 34 | 54 | 88 | A |
| 32. | NWANKWO, Joy Nwanneka (miss) | SE/08/12683 | 35 | 56 | 91 | A |

AHMADU BELLO UNIVERSITY, ZARIA
FACULTY OF EDUCATION
DEPARTMENT OF EDUCATION

Our Ref: DE/S.25

Date: 30/06/2011

THE PROVOST,
FED. COLL. OF EDUCATION,
ZARIA.

PROVOST'S OFFICE RECEIVED 1/7/2011 FEDERAL COLLEGE OF EDUCATION, ZARIA

Dear Sir,

STUDENTS' FIELD RESEARCH

The Department of Education, Ahmadu Bello University, Zaria requires each student working for a degree to complete a research Thesis/Project. Our students entering the final year of their studies will be collecting data during the year.

Most of them will need to be allowed access to certain relevant documents and some valuable information which you may have. Please give assistance as much as possible.

TOPIC OF RESEARCH: THE RELATIONSHIP BETWEEN STUDENTS' PERFORMANCE IN ENGLISH AND OTHER SUBJECT AREAS IN COLLEGES OF EDUCATION WITH SPECIFIC REFERENCE TO PHYSICS, CHEMISTRY AND BIOLOGY (NCE TWO).

BY

OBIANYO, JOSEPHINE ECO (MRS)
MED/EDUC/03989/2006-07

Thank you for your continuing cooperation.

Yours sincerely,

DEPARTMENT OF EDUCATION A. B. U. ZARIA.

Prof. I.A. Olaofe
Research Adviser

Reg
Fyne
Provost
1.7.11

HOD's English Physics, Chemistry & Biology Edu.
Ms. above is my student
I'm my research supervisee
For perusal

Reg
Noted and will
avail the staff
necessary

AHMADU BELLO UNIVERSITY, ZARIA
FACULTY OF EDUCATION
DEPARTMENT OF EDUCATION

Our Ref: DE/S.25

Date: 05/08/2...

The Provost,
Federal College of Education Technical,
Umunze, Anambra State.

Dear Sir,

STUDENTS' FIELD RESEARCH

The Department of Education, Ahmadu Bello University, Zaria requires ea student working for a degree to complete a research Thesis/Project. Our studen entering the final year of their studies will be collecting data during the year.

Most of them will need to be allowed access to certain relevant documents ar some valuable information which you may have. Please give assistance as much a possible.

TOPIC OF RESEARCH: The relationship between stu performance in English and some selected Subject areas of the sciences in Colleges of Education (using General English, physics, Che and Biology)

By
Obiamyo, Josephine Ego.
M.Ed/Educ/03989/2006-07.

Thank you for your continuing cooperation.

Yours sincerely,
DEPARTMENT OF EDUCATION A. B. U. ZARIA.
Prof. I. A. Olaoye
Research Adviser

Dean, School of Sciences

Approved.
5/8/2011
for Registrar
PROVOST

AHMADU BELLO UNIVERSITY, ZARIA
FACULTY OF EDUCATION
DEPARTMENT OF EDUCATION

Our Ref: DE/S.25

Date: 22/09/2011

The Provost,
Emmanuel Alayande
College of Education, Oyo.
Oyo State.

Dear Sir,

STUDENTS' FIELD RESEARCH

The Department of Education, Ahmadu Bello University, Zaria requires each student working for a degree to complete a research Thesis/Project. Our students entering the final year of their studies will be collecting data during the year.

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TOPIC OF RESEARCH: The relationship between Students' performance in English and Selected Science subjects in Colleges of Education in Nigeria.

By

Obiamyo, Josephine Ego (Mrs)
M. Ed/Educ./03959/2006-07

Thank you for your continuing cooperation.

Yours sincerely,

Prof M.O. Abdu

Research Adviser

DEPT. OF EDUCATION
A.B.U
ZARIA

Director, CMUS
Pls, assist the bearer as much as possible
Asflaba
22/09/2011

AHMADU BELLO UNIVERSITY, ZARIA
FACULTY OF EDUCATION
DEPARTMENT OF EDUCATION

Our Ref: DE/S.25

Date: 22/09/201

The Provost
FCE, Special oyo.
Oyo State.

Dear Sir,

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By:

Obiango, Josephine Ego (Mrs)
M.Ed/Educ. 03989 (2006-07).

Thank you for your continuing cooperation.

DR (Mrs)

Yours sincerely,

Research Advisor

DEPT. OF EDUCATION
A.B.U
ZARIA

Pls, the lecturer is a staff of Fed. Coll. of Edn. Kotangora kindly release whatever information she wants from our College

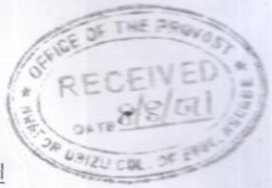



AHMADU BELLO UNIVERSITY, ZARIA
FACULTY OF EDUCATION
DEPARTMENT OF EDUCATION

Our Ref: DE/S.25

Date: 02/08/2011

The Provost,
College of Education
Nsugbe, Anambra State.




Dear Sir,

STUDENTS' FIELD RESEARCH

The Department of Education, Ahmadu Bello University, Zaria requires each student working for a degree to complete a research Thesis/Project. Our students entering the final year of their studies will be collecting data during the year.

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By

Obianyo, Josephine Ego.
M.Ed/Educ/03989/2006-07

Thank you for your continuing cooperation. Director, GS Pse assist Mrs

8/8/011

Yours sincerely,

Prof. I.A. Olaofe
Research Adviser

Ag Registrar ✓
Above for your information
Col Offiong
08/08/2011

AHMADU BELLO UNIVERSITY, ZARIA
FACULTY OF EDUCATION
DEPARTMENT OF EDUCATION

Our Ref: DE/S.25

Date: 21/09/2011

The Registrar
College of Education,
Ilemona, Kwara State.

Dear Sir,

STUDENTS' FIELD RESEARCH

The Department of Education, Ahmadu Bello University, Zaria requires each student working for a degree to complete a research Thesis/Project. Our students entering the final year of their studies will be collecting data during the year.

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TOPIC OF RESEARCH: The relationship between Students' performance in English and selected Science subjects in colleges of Education in Nigeria.

By
Obianyo, Josephine Ego (Mrs)
M.Ed/Educ/03989/2006-07

Thank you for your continuing cooperation.

Yours sincerely,

Prof M.O. Afolabi
Research Adviser

DEPT. OF EDUCAT
A.B.U
ZARIA

Received and attended to

COLLEGE OF EDUCATION
REGISTRAR
21/09/11

Registrar
Femi Olabisi

AHMADU BELLO UNIVERSITY
FACULTY OF EDUCATION
DEPARTMENT OF EDUCATION

Our Ref: DE/S.25

Date 22/02/2011

The Provost,
Bauchi State College of Education,
A-Zare, Bauchi State.

Dear Sir,

STUDENTS' FIELD RESEARCH

The Department of Education, Ahmadu Bello University, Zaria requires each student working for a degree to complete a research Thesis/Project. Our students entering the final year of their studies will be collecting data during the year.

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Thank you for your continuing cooperation.

Yours sincerely,

Prof M.O. Abdu
Research Adviser

DEPT. OF EDUCA
A.B.U
ZARIA

AHMADU BELLO UNIVERSITY, ZARIA
FACULTY OF EDUCATION
DEPARTMENT OF EDUCATION

Our Ref: DE/S.25

Date: 07/08/2011

The Provost,
Federal College of Education Technical
Asaba, Delta state.

Dear Sir,

STUDENTS' FIELD RESEARCH

The Department of Education, Ahmadu Bello University, Zaria requires each student working for a degree to complete a research Thesis/Project. Our students entering the final year of their studies will be collecting data during the year.

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By

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Thank you for your continuing cooperation.

Dean, SSE
Pls assist the bearer.
4/8/2011

Yours sincerely,
DEPARTMENT OF EDUCATION A.B.U. ZARIA.
Prof. I.A. Olaofe
Research Adviser

**APPENDIX V**

**KENYA PROJECT ORGANIZATION (KENPRO)**

Sample Size Determination Using Krejcie and Morgan Table | Kenya P...
http://www,kenpro.org/sample-size-determination-using-krejcie-aM-ni..

'

# Kenya Projects Organization [KENPRQ]

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# Sample Size Determination Using Krejcie and Morgan Table

iKENPRO lAugust 25, 2012

The ever increasing need for a representative statistical sample in empirical research has created the demand for an effective method of determining sample size. To address the existing gap, Krejcie & Morgan (1970) came up with a table for determining sample size for a given population for easy reference.

Table 1: Table for Determining Sample Size for a

Finite Population

| N | S | N | S | N | S |
|---|---|---|---|---|---|
| 10 | 10 | 220 | 140 | 1200 | 291 |
| 15 | 14 | 230 | 144 | 1300 | 297 |
| 20 | 19 | 240 | 148 | 1400 | 302 |
| 25 | 24 | 250 | 152 | 1500 | 306 |
| 30 | 28 | 260 | 155 | 1600 | 310 |
| 35 | 32 | 270 | 159 | 1700 | 313 |
| 40 | 36 | 280 | 162 | 1800 | 317 |
| 45 | 40 | 290 | 165 | 1900 | 320 |
| 50 | 44 | 300 | 169 | 2000 | 322 |
| 55 | 48 | 320 | 175 | 2200 | 327 |
| 60 | 52 | 340 | 181 | 2400 | 331 |
| 65 | 56 | 360 | 186 | 2600 | 335 |
| 70 | 59 | 380 | 191 | 2800 | 338 |
| 75 | 63 | 400 | 196 | 3000 | 341 |
| 80 | 66 | 420 | 201 | 3500 | 346 |
| 85 | 70 | 440 | 205 | 4000 | 351 |
| 90 | 73 | 460 | 210 | 4500 | 354 |
| 95 | 76 | 480 | 214 | 5000 | 357 |
| 100 | 80 | 500 | 217 | 6000 | 361 |
| 110 | 86 | 550 | 226 | 7000 | 364 |
| 120 | 92 | 600 | 234 | 8000 | 367 |
| 130 | 97 | 650 | 242 | 9000 | 368 |
| 140 | 103 | 700 | 248 | 10000 | 370 |
| 150 | 108 | 750 | 254 | 15000 | 375 |
| 160 | 113 | 800 | 260 | 20000 | 377 |
| 170 | 118 | 850 | 265 | 30000 | 379 |
| 180 | 123 | 900 | 269 | 40000 | 380 |
| 190 | 127 | 950 | 274 | 50000 | 381 |
| 200 | 132 | 1000 | 278 | 75000 | 382 |
| 210 | 136 | 1100 | 285 | 1000000 | 384 |

Note.—*N* is population size. *S* is sample size.

Source: Krejcie & Morgan, 1970

The Table is constructed using the following formula for determining sample size:

*Formula for determining sample size*

$s = X^2NP(1-P) \div d^2(N-1) + X^2P(1-P)$

$s$ = required sample size

$X^2$ = the table value of chi-square for 1 degree of freedom at the desired confidence level (3.841)

$N$ = the population size

$P$ = the population proportion (assumed to be .50 since this would provide the maximum sample size)

$d$ = the degree of accuracy expressed as a proportion (.05)

*Source: Krejcie & Morgan, 1970*

NOTE:

There is no need of using the formula since the table of determining sample size has all the provisions you require to arrive at your sample size.

Proceed to read about Sampling Procedures

**References**