SCHEMES OF WORK 2021

COMPUTER FORM 3

TERM 1-3

COMPUTER STUDIES FORM 3 SCHEMES OF WORK – TERM 1								
WEEK	**LESSON**	**TOPIC**	**SUB – TOPIC**	**OBJECTIVES**	**LEARNING/TEACHING ACTIVITIES**	**LEARNING/TEACHING RESOURCES**	**REFERENCES**	**REMARKS**
1		**OPENING OF SCHOOLS**						
2	**1**	Data Representation in a computer	DEFINITION & INTRODUCTION	By the end of the lesson, the learner should be able to • Define data • Define information • Classify computers according to functionality with illustration	• Questions and answers • Discussions in groups • brainstorming	• computer keyboard • electronic circuits • Charts • Photographs • Pictures from books	• Longhorn Computer studies Bk 3 page 1-3 • Computer studies by Onunga and Shah page 1	
	2		DATA REPRESENTATION	By the end of the lesson, the learner should be able to • Represent data in digital computers (i) On electronic circuits (ii) On magnetic media (iii) Optical media	• Discussions in groups • Exercises by the teacher	• Charts • Floppy diskettes • Compact disk • Electronic circuit	• Longhorn Computer studies Bk 3 page 23 • Computer studies by Onunga and Shah page 1	
	3	Data Representation	DATA REPRESENTATION	By the end of the lesson, the learner should be able to • Give reasons why binary system is used in computers • Define bits, bytes, nibble and word	• Discussions • Question and answer	• charts	• Longhorn Computer studies Bk 3 page 24 • Computer studies by	

							Onunga and Shah page 1	
	4	Data Representation	NUMBER SYSTEMS	By the end of the lesson, the learner should be able to • Define decimal number • Represent data in decimal number system • Represent data in actual number system	• Group discussions • Exercises given and marked by the teacher	• Charts • Simple calculations	• Longhorn Computer studies Bk 3 page 25 • Computer studies by Onunga and Shah page 6	
3	**1**		NUMBER SYSTEM	By the end of the lesson, the learner should be able to • Represent data in actual number system • Represent data in Hexadecimal number system	• Group discussions • Questions and answering • exercises	• charts • simple calculations • Computer	• Longhorn Computer studies Bk 3 page 26 • Computer studies by Onunga and Shah page 7-8	
	2	Data representation	FURTHER CONVERSION OF NUMBER SYSTEMS	By the end of the lesson, the learner should be able to • Convert binary number to decimal number system • Convert decimal numbers to binary numbers	• Questions and answers • Discussions in groups	• Charts • Simple calculations • Questions papers	• Longhorn Computer studies Bk 3 page 26 • Computer studies by Onunga and Shah page 8	

	3	"	"	By the end of the lesson,, the learner should be able to • Convert binary fraction to decimal number system • Convert a decimal fraction to binary	• Discussions • Questions and answers	• Charts • Simple calculations • Questions papers	• Longhorn Computer studies Bk 3 page 26 • Computer studies by Onunga and Shah page	
	4	DATA REPRESENTATION	Converting octal numbers to decimal and binary numbers	By the end of the lesson, the learner should be able to • Convert octal numbers to decimal numbers • Convert octal numbers to binary numbers	• Discussion • Question and answer	• Chart	• Longhorn Computer studies Bk 3 page 26 • Computer studies by Onunga and Shah page 12	
4	**1**	DATA REPRESENTATIONS	Converting hexadecimal numbers to binary number	By the end of the lesson, the learner should be able to • Convert hexadecimal to decimal numbers • Convert hexadecimal numbers to binary numbers	• Discussions • Question and answer	• Charts • Simple calculations • Computers • Scientific calculators	• Longhorn Computer studies Bk 3 page 26 • Computer studies by Onunga and Shah page 13-15	
	2				• Discussions	• Charts		

		DATA REPRESENTATIONS	Symbolic Representation using coding schemes	By the end of the lesson, the learner should be able to • Explain the binary coded decimal code as a representation Scheme (BCD) • Explain the extended Binary coded decimal interchange code (EBCDIC)	• Question and answer	• Scientific Calculators	• Longhorn Computer studies Bk 3 page 26 • Computer studies by Onunga and Shah page 22-27	
	3	DATA REPRESENTATION	Symbolic Representation using coding schemes	By the end of the lesson, the learner should be able to • Explain the American standard code for information interchange code (ASCII) as a representation scheme	• Discussion in groups	• Charts • Scientific and simple calculator • computer	• Longhorn Computer studies Bk 3 page 26 • Computer studies by Onunga and Shah page 22-27	
	4		BINARY ARITHMETIC OPERATIONS	By the end of the lesson, the learner should be able to • Represent signed binary numbers using prefixing an extra sign bit to a binary number and ones complement	• Teacher demonstrates • Group discussions • Questions and answering	• Simple calculators • PDA's • charts	• Longhorn Computer studies Bk 3 page 27 • Computer studies by Onunga and Shah page 27	
5	**1**			By the end of the lesson, the learner should be able to	• Teachers demonstrates	"	• Longhorn Computer	

			BINARY ARITHMETIC OPERATIONS	• Represent signed binary numbers using two's complement	• Question and answer • Group discussions		studies Bk 3 page 27 • Computer studies by Onunga and Shah page 27	
	2		BINARY ADDITION	By the end of the lesson, the learner should be able to • Perform seven possible binary additions • Outline the procedure for binary additions	• Demonstration by the teacher • Teacher gives and marks questions • Group discussions	• Charts	• Longhorn Computer studies Bk 3 page 27 • Computer studies by Onunga and Shah page 27	
	3		BINARY ARITHMETIC OPERATIONS	By the end of the lesson, the learner should be able to • Perform direct subtraction • Perform subtraction using ones complement	• Discussions • Demonstration by teacher • Question and answer	• Charts • calculator	• Longhorn Computer studies Bk 3 page 26 • Computer studies by Onunga and Shah page 28	
	4		BINARY ARITHMETIC OPERATIONS	By the end of the lesson, the learner should be able to • Perform subtraction using twos complement	• Discussions • Demonstration by teacher • Question and answer	• Charts • calculator	• Longhorn Computer studies Bk 3 page 26 • Computer studies by Onunga and Shah page 28	

6	**1**	Data Processing	DEFINITION AND INTRODUCTION	By the end of the lesson, the learner should be able to • Define data information and data processing • Describe the data processing cycle • Give methods of data collection	• Group discussions • Question and answering • brainstorming	• charts • computer	• Longhorn Computer studies Bk 3 page 32 • Computer studies by Onunga and Shah page 32-35	
	2	Data Processing	DATA PROCESSING CYCLE	By the end of the lesson, the learner should be able to • List stages for data processing • Describe the listed data processing cycle stage	• Group discussions • Question and answering • Brainstorming	• charts • computer	• Longhorn Computer studies Bk 3 page 32 • Computer studies by Onunga and Shah page 32-35	
	3	Data Processing	DATA PROCESSING CYCLE	By the end of the lesson, the learner should be able to • Give the errors that influence the accuracy of data and information output • Explain the errors in data processing	• Discussion in groups • Question and answer • Assignments marked by the teacher	• Flash cards • Charts • computer	• Longhorn Computer studies Bk 3 page 35 • Computer studies by Onunga and Shah page 33	
	4	Data processing	DATA INTEGRITY	By the end of the lesson, the learner should be able to • Define data integrity	• Discussion in groups • Illustrations by the teacher	• Flash cards • Simple information system	• Computer studies by	

				• Give the measurements of data integrity • Accuracy • Timelines • Relevance • Describe the listed data integrity measurements	• Question and answer		Onunga and Shah page 41	
7	**1**	Data processing	DATA PROCESSING METHODS	By the end of this lesson, the learner should be able to • State the ways of minimizing threat to data integrity • List and describe the methods of data processing	• Discussion in groups • Illustrations by the teacher • Question and answer	• Flash cards • Simple information system	• Computer studies by Onunga and Shah page 41	
	2	Data processing	COMPUTER FILES	By the end of the lesson, the learner should be able to • Define a computer file • Give the types of computer files • State the advantages of computerized filing	• Discussion in groups • Illustrations by the teacher • Question and answer	• Charts	• Computer studies by Onunga and Shah page 49	
	3	Data processing	ELEMENTS OF COMPUTER FILE	By the end of the lesson, the learner should be able to • List the elements of a computer file • Describe the listed elements of a computer file	• Discussion in groups • Question and answer • demonstration	• database • chart with relation database	• Longhorn Computer studies Bk 3 page 40	
	4	Data processing	CLASSIFICATION OF COMPUTER FILES	By the end of the lesson, the learner should be able to • Classify computer files	• Illustration by the teacher	• Floppy diskette • Compact disc	• Longhorn Computer	

				• Differentiate between logical and physical computer files		• Computer video tape	studies Bk 3 page 41 • Computer studies by Onunga and Shah page 50	
8	**1**	Data processing	COMPUTER PROCESSING FILES	By the end of the lesson, the learner should be able to • Give the types of processing files • Describe the listed types of processing files • Master files • Transaction file • Reference files • Backup files • Sort files	• Discussions • Illustration by the teacher • Question and answer	• Charts • Flash cards	• Longhorn Computer studies by Mburu and Chemwa Bk 3 page 41	
	2	Data processing	FILE ORGANIZATION METHODS	By the end of the lesson, the learner should be able to • Define file organization • List the methods of organizing files on a storage media • Describe the listed methods of file organization	• Question and answer • Brainstorming • Discussions in groups	• Floppy diskettes • Compact disk • Video tapes	• Longhorn Computer studies by Mburu and Chemwa Bk 3 page 42 • Computer studies by Onunga and Shah page 55	
	3	Data processing	ELECTRONIC DATA PROCESSING	By the end of the lesson, the learner should be able to	• Discussions in groups	• Charts • Flash cards	• Longhorn Computer studies by	

				• Give the data processing modes • Describe (i) Online processing (ii) Real-time processing (iii) Distributed processing	• Question and answer • Illustration by the teacher		• Mburu and Chemwa Bk 3 page 43-45 • Computer studies by Onunga and Shah page 61	
	4	Data processing	ELECTRONIC DATA PROCESSING MODES	By the end of the lesson, the learner should be able to • Describe (i) Time- sharing (ii) Batch processing (iii) Multi processing (iv) Multi-tasking (v) Interactive processing	• Discussions in groups • Question and answer • Illustration by the teacher	• Charts • Flash cards	• Computer studies by Onunga and Shah page 612-69	
9 & 10		**END TERM / REVISION**						

COMPUTER STUDIES FORM 3 SCHEMES OF WORK – TERM 2								
WEEK	**LESSON**	**TOPIC**	**SUB – TOPIC**	**OBJECTIVES**	**LEARNING/TEACHING ACTIVITIES**	**LEARNING/TEACHING RESOURCES**	**REFERENCES**	**REMARKS**
1	**1**	ELEMENTARY PROGRAMMING PRINCIPLES	DEFINITION OF PROGRAMMING	By the end of this lesson, the learner should be able to • Define programming • List the terms used in programming • Describe the listed terms • Differentiate between source program and object program	• Question and answer • Discussion in groups • Illustration by the teacher	• Charts • Books • Journals • Software • computer	• Longhorn Computer studies by Mburu and Chemwa Bk 3 page 47 • Computer studies by Onunga and Shah page 72	
	2	ELEMENTARY PROGRAMMING PRINCIPLES	LEVELS OF PROGRAMMING LANGUAGE	By the end of the lesson, the learner should be able to • Classify the programming languages • Describe the low level programming language	• Demonstration • Q/A	• Flash cards • Charts • books	• Longhorn Computer studies by Mburu and Chemwa Bk 3 page 49-51 • Computer studies by Onunga and Shah page 73	
	3	ELEMENTARY PROGRAMMING PRINCIPLES	LEVELS OF PROGRAMMING LANGUAGE	By the end of the lesson, the learner should be able to • Describe the high level language • State the advantages and disadvantages of low-level and high level languages	• Q/A • Discussion	• Flash cards • Charts	• Longhorn Computer studies by Mburu and Chemwa Bk 3 page 59	

							• Computer studies by Onunga and Shah page 74-75	
	4	ELEMENTARY PROGRAMMING PRINCIPLES	PROGRAM DEVELOPMENT	By the end of the lesson, the learner should be able to • List the stages in program development • Describe (i) program recognition (ii) program definition	• Question and answer • Discussion in groups	• Flash cards • charts	• Longhorn Computer studies by Mburu and Chemwa Bk 3 page 60-66	
2	**1**	ELEMENTARY PROGRAMMING PRINCIPLES	PROGRAM DEVELOPMENT	By the end of the lesson, the learner should be able to (i) Describe (ii) Program design (iii) Program coding (iv) program testing (v) Program implementation and maintenance	• Demonstration • Illustrations by teacher	• Computer software	• Computer studies by Onunga and Shah page 83-85	
	2	ELEMENTARY PROGRAMMING PRINCIPLES	PROGRAM DOCUMENTATION	By the end of the lesson, the learner should be able to • Define the term program documentation • State the forms of documentation	• Discussions in groups • Illustrations by the teacher • Question and answer	• Chalkboard • charts	• Longhorn Computer studies by Mburu and Chemwa Bk 3 page 67	

				• Describe the target groups for documentation				
	3	ELEMENTARY PROGRAMMING PRINCIPLES	DEVELOPMENT OF ALGORITHMS	By the end of the lesson, the learner should be able to • Define algorithm • List tools used in algorithm • Distinguish between pseudo code and flow charts	• Discussion in groups • Question and answer • Illustration by the teacher	• Chalkboard • Charts • Flash cards	• Longhorn Computer studies by Mburu and Chemwa Bk 3 page 68	
	4	ELEMENTARY PROGRAMMING PRINCIPLES	DESIGNING MORE COMPLEX ALGORITHMS	By the end of the lesson, the learner should be able to • Give comparison between a pseudo code and a flow chart • Design complex algorithms	• Question and answer • Demonstration by the teacher • Group discussions	• Charts	• Longhorn Computer studies by Mburu and Chemwa Bk 3 page 68	
3	**1**	ELEMENTARY PROGRAMMING PRINCIPLES	PROGRAM CONTROL STRUCTURES	By the end of the lesson, the learner should be able to • Define program control structures • List three control structures • Describe sequence as a control structure	• Discussions in groups	• Charts • chalkboard	• Longhorn Computer studies by Mburu and Chemwa Bk 3 page 72-78 • Computer studies by Onunga and Shah page 93	
	2	ELEMENTARY PROGRAM	PROGRAM CONTROL STRUCTURES	By the end of the lesson, the learner should be able to • Describe the use of iteration (looping) as a	• Discussion in groups	• Charts • chalkboard		

		MING PRINCIPLES		control structure Describe selection as a control structure • Design a more complex algorithm			• Computer studies by Onunga and Shah page 94	
	3	SYSTEM DEVELOPMENT	Definition	By the end of the lesson, the learner should be able to • Define the term system • Describe a system list • List the characteristics of a system	• Discussion • Question and answer	• Charts • Chalkboard • Journals • Computer • books	• Longhorn Computer studies by Mburu and Chemwa Bk 3 page 91-95 • Computer studies by Onunga and Shah page 168	
	4	SYSTEM DEVELOPMENT	Information system	By the end of the lesson, the learner should be able to • Describe the listed characteristics of a system • Define information system	• Discussion in groups • Illustration by the teacher	• Charts • Flash cards • Chalkboard • Computer • Books	• Computer studies by Onunga and Shah page 170	
4	**1**	SYSTEM DEVELOPMENT	Information system	By the end of the lesson, the learner should be able to • State the main purpose of an information system • Give reasons why information system is developed • State the role of information system analyst	• Discussion • Illustrations by the teacher • Question and answer	• Charts • Flash cards • Computer	• Longhorn Computer studies by Mburu and Chemwa Bk 3 page 95	

	2	SYSTEM DEVELOPMENT	Theories of system development	By the end of the lesson, the learner should be able to • Describe tradition approach • Describe rapid application development	• Discussions in groups • Illustration by the teacher	• Chalk board • Flash cards • Charts	• Computer studies by Onunga and Shah page 170	
	3		Theories of system development	By the end of the lesson, the learner should be able to • Describe the structured approach • Give examples of ways of information of gathering	• Discussions in groups • Illustration by the teacher	• Chalk board • Flash cards • Charts	• Longhorn Computer studies by Mburu and Chemwa Bk 3 page 97	
	4	SYSTEM DEVELOPMENT	Stages of system development	By the end of the lesson, the learner should be able to • State and define all the stages of system developmentGive the methods used in information gathering • Describe interviews studying of available documents as used in information gathering • Prepare a questionnaire • Prepare and present a fait finding report	• Illustration by the teacher • Question and answer	• Chalk board • charts	• Longhorn Computer studies by Mburu and Chemwa Bk 3 page 97-104	

				• Describe how automated methods are used				
5	**1**	SYSTEM DEVELOPMENT	Requirements specification	By the end of the lesson, the learner should be able to • Describe output specification • Describe input specification Describe file/data stores • Describe hardware and software requirements	• Discussions • Question and answer	• Chalkboard • Charts	• Longhorn Computer studies by Mburu and Chemwa Bk 3 page 105,109	
	2	SYSTEM DEVELOPMENT	System design	By the end of the lesson, the learner should be able to • Define system flowchart • Identify common flowchart symbols	• Discussions • Question and answer	• Chalkboard • Charts	• Longhorn Computer studies by Mburu and Chemwa Bk 3 page 109	
	3	SYSTEM DEVELOPMENT	Designing a system flowchart	By the end of the lesson, the learner should be able to • Identify guidelines fro designing system flowcharts • Write a system flowchart using a case study	• Discussions • Question and answer • Illustration by the teacher	• Charts • Chalkboard	• Longhorn Computer studies by Mburu and Chemwa Bk 3 page 110	
	4		Designing a system flowchart	By the end of the lesson, the learner should be able to	• Illustration by the teacher	• Charts • Chalkboard	• Longhorn Computer studies	

				• Write a simple book borrowing module flowchart • Write cleaners information system flowchart	• Discussion in groups		by Mburu and Chemwa Bk 3 page 110	
6	**1**		Designing a system flowchart	By the end of the lesson, the learner should be able to • Write a sample library books management system flowchart • Use data flow diagrams	• Question and answer • Discussion in groups	• Chalkboard • chart	• Longhorn Computer studies by Mburu and Chemwa Bk 3 page 110	
	2	SYSTEM DEVELOPMENT	System Construction	By the end of the lesson, the learner should be able to • Define the term system construction • Identify number of technique that can be used to construct a designed system	• Question and answer • Discussion in groups	• Charts • Chalkboard • Information system (Cleaner)	• Longhorn Computer studies by Mburu and Chemwa Bk 3 page 110	
	3		System Implementation	By the end of the lesson, the learner should be able to • Define system implementation and file conversion • Describe factors considered during file conversion	• Illustrations by the teacher • discussion	• Charts • chalkboard	• Longhorn Computer studies by Mburu and Chemwa Bk 3 page 116	
	4		Change over strategies	By the end of the lesson, the learner should be able to	• Discussions	• Flash card • Charts		

				• Define the term changeover • List the system change over strategies • Describe three listed changeover strategies	• Question and answer	• chalkboard	• Longhorn Computer studies by Mburu and Chemwa Bk 3 page 116	
8	**1**		System maintenance and revision	By the end of the lesson, the learner should be able to • Define system maintenance • Define system review • Describe security control measures	• Illustration by the teacher • Question and answer	• Charts • Flash cards	• Longhorn Computer studies by Mburu and Chemwa Bk 3 page 116	
	2		System documentation	By the end of the lesson, the learner should be able to • Write a report on case study	• Illustration by the teacher • Question and answer	• Charts • Flash cards	• Longhorn Computer studies by Mburu and Chemwa Bk 3 page 117	
	3		System documentation	By the end of the lesson, the learner should be able to • Develop a system using a case study	• Illustration by the teacher • Discussions	• A chart • Computer • Printer • Chalkboard	• Longhorn Computer studies by Mburu and Chemwa Bk 3 page 117	
	4		System documentation	By the end of the lesson, the learner should be able to	• Discussions	• Charts • Computer	• Longhorn Computer studies	

				• Identify comprehensive system documentation details • Write a report on the case study	• Question and answer		by Mburu and Chemwa Bk 3 page 118-120	
9 & 10	**END OF TERM EXAMINATION**							

COMPUTER STUDIES FORM 3 SCHEMES OF WORK – TERM 3								
WEEK	**LESSON**	**TOPIC**	**SUB – TOPIC**	**OBJECTIVES**	**LEARNING/TEACHING ACTIVITIES**	**LEARNING/TEACHING RESOURCES**	**REFERENCES**	**REMARKS**
1	**1**	PROGRAMMING WITH VISUAL AIDS	Definition	By the end of the lesson, the learner should be able to • Define the term visual basic • Start up visual basic • Identify features of visual basic	• Demonstration by the teacher • Discussions • Question and answer	• Chalkboard • Computer • chart	• Longhorn Computer studies by Mburu and Chemwa Bk 3 page 122	
	2	PROGRAMMING	Visual basic toolbox	By the end of the lesson, the learner should be able to • Identify parts of the visual basic tool box • Describe parts of the visual basic toolbox	• Demonstration • Question and answer	• Chalkboard • Photograph • computer	• Longhorn Computer studies by Mburu and Chemwa Bk 3 page 123	
	3-4		Saving a visual project	By the end of the lesson, the learner should be able to • Save a visual basic project • Open an existing visual basic project	• Demonstration by the teacher • Question and answer • Practical	• Computer • Chalkboard	• Longhorn Computer studies by Mburu and Chemwa Bk 3 page 123	

2	**1**		Visual basic fundamental concepts	By the end of the lesson, the learner should be able to • Identify the visual basic fundamental concepts • Describe the listed fundamental concepts	• Discussions • Questions and answer	• Chalkboard • Charts • Computer • Simple calculators	• Longhorn Computer studies by Mburu and Chemwa Bk 3 page 136	
	2		Mathematical operators	By the end of the lesson, the learner should be able to • Identify mathematical operators • Describe the listed mathematical operators	• Discussions • Question and answers	• Chalkboard • Charts • Computer • Simple calculators	• Longhorn Computer studies by Mburu and Chemwa Bk 3 page 137	
	3-4		Numeric strings and values	By the end of the lesson, the learner should be able to • convert a numeric string to a value • Convert a value to a string	• Illustrations by the teacher • Discussions • Question and answer	• Charts • computer	• Longhorn Computer studies by Mburu and Chemwa Bk 3 page 137	
3	**1**		Project developments	By the end of the lesson, the learner should be able to • Create a program used to calculate the area of a rectangle	• Discussion in groups • Illustrations by the teacher	• Charts • Computer	• Longhorn Computer studies by Mburu and Chemwa Bk 3 page 145	

	2		Project developments	By the end of the lesson, the learner should be able to • Write a program used to find roots of a quadratic expression	• Discussion in groups • Illustrations by the teacher	• Charts • Computer	• Longhorn Computer studies by Mburu and Chemwa Bk 3 page 147	
	3-4		Case construct Looping construct	By the end of this lesson, the learner should be able to • Use case statement that can display the name of a weekday when its number is provided • Write a program using do-loop • Write a program using FOR-NEXT LOOP	• Demonstration by the teacher • Discussion • Question and answer	• Chart • Chalkboard • Computer • printer	• Longhorn Computer studies by Mburu and Chemwa Bk 3 page 147	
4	**1**		Working with graphical objects	By the end of the lesson, the learner should be able to • Insert a picture using picture box • Define module and procedure • Declare general subroutines	• Demonstration • Question and answer • discussion	• chart • computer	• Longhorn Computer studies by Mburu and Chemwa Bk 3 page 150	

	2		Working with graphical objects	By the end of the lesson, the learner should be able to • Write a general subroutine that solves $y= x^n$ given that the value of n are integers	• Demonstration • Question and answer • practical	• computer • printer • chart • chalkboard	• Longhorn Computer studies by Mburu and Chemwa Bk 3 page 151	
	3-4		Creating means and dialog boxes	By the end of the lesson, the learner should be able to • Create a dropdown menu • Create a message and dialog boxes	• Demonstration • Discussions • Question and answers	• computer • printer • chart • chalkboard	• Longhorn Computer studies by Mburu and Chemwa Bk 3 page 151	
	1		List boxes and control boxes	By the end of the lesson, the learner should be able to • Define list box and combo box • Create a list box and a combo box • Create a project that loads a list of items	• Discussion • Demonstration • Practical	• Chart • Photograph • Computer • chalkboard	• Longhorn Computer studies by Mburu and Chemwa Bk 3 page 161	
5	**2**		Visual basic data structures	By the end of the lesson, the learner should be able to • Define the term arrays • Declare an array	• Discussion • Demonstration • Practical	• Chart • Photograph • Computer • chalkboard	• Longhorn Computer studies by Mburu and	

							Chemwa Bk 3 page 163	
	3		Visual basic data structures	By the end of the lesson, the learner should be able to • Declare two dimensional arrays • Write array of records	• Discussion • Demonstration • Practical	• Chart • Photograph • Computer • chalkboard	• Longhorn Computer studies by Mburu and Chemwa Bk 3 page 161	
	4		Data files	By the end of the lesson, the learner should be able to • Define a file • Identify types of files recognized by visual basic • Link visual basic to data base	• Demonstration • Practical • Discussion	• Chart • Computer • chalkboard	• Longhorn Computer studies by Mburu and Chemwa Bk 3 page 187-189	
6	**1**	INTRODUCTIO N TO DATA BASE DESIGN	Definition	By the end of the lesson, the learner should be able to • Define database • Identify relationships in database	• Demonstration • Practical • Discussion	• Chart • Computer • chalkboard	• Longhorn Computer studies by Mburu and Chemwa Bk 3 page 187-189	
	2		Defining attributes	By the end of the lesson, the learner should be able to	• Question and answer • Practical • Demonstration	• computer • chart • chalkboard	• Longhorn Computer studies by	

				• Define a foreign key • Distinguish between an entity and attributes • Create one to many relationships	• discussions		Mburu and Chemwa Bk 3 page 203-204	
	3		File table structure	By the end of the lesson, the learner should be able to • Create a table • Set primary key and foreign key	• Demonstration • Discussion • Practical	• Computer • Chart • Chalkboard	• Longhorn Computer studies by Mburu and Chemwa Bk 3 page 217	
	4		Enforcing Referential integrity	By the end of the lesson, the learner should be able to • Enforce referential integrity between tables • Normalize table	• Demonstration • Discussion • Practical	• Computer • Chart • Chalkboard	• Longhorn Computer studies by Mburu and Chemwa Bk 3 page 217	
7	**1**		Forms and commands	By the end of the lesson, the learner should be able to • Create a form/ interface • Call for commands	• Discussion in groups • Demonstration • Practical • Question and answer	• Computer • Chart • Chalkboard	• Longhorn Computer studies by Mburu and Chemwa Bk 3 page 21o	
	2		Creating reports			• Chart		

				By the end of the lesson, the learner should be able to • Describe the tools used to automate database • Create a switchboard	• Discussion in groups • Demonstration • Practical • Question and answer	• computer	• Longhorn Computer studies by Mburu and Chemwa Bk 3 page 211	
	3		Automating database	By the end of the lesson, the learner should be able to • Describe the tools used to automate database • Create a switchboard	• Discussion in groups • Demonstration • Practical • Question and answer	• Chart • computer	• Longhorn Computer studies by Mburu and Chemwa Bk 3 page 212	
	4		Automating database	By the end of the lesson, the learner should be able to • Create macros • Develop a system using a case study	• Demonstration • Assignment	• Computer • Chart	• Longhorn Computer studies by Mburu and Chemwa Bk 3 page 212	
8-9	**REVISION AND END TERM EXAMS**							