

Computer Science - National Diploma (ND)

YEAR II SEMESTER II

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Course: Object Oriented FORTRAN

Programme: COMPUTER SCIENCE (ND)			
Course: OBJECT ORIENTED FORTRAN	Course Code: COM 221	Contact Hours:	6 hours/week
Year: II Semester: II	Pre-requisite: COM 101, COM 113	Theoretical:	hours/week 2
		Practical:	hours /week 4
General Objectives: On completion of this course the student should be able to:			
1.0 Know the basics of scientific programming language.			
2.0 Know the basic concepts of OOFOTRAN			
3.0 Understand Arithmetic Operations and Expressions			
4.0 Know OOFORTRAN statements			
5.0 Know control statements			
6.0 Know the use and application of arrays.			
7.0 Know the implementation of structured programming in OOFOTRAN			
8.0 Know the use of pointers.			
9.0 Know object features of OOFORTRAN			

Theoretical Content				Practical Content		
Week/s	Specific Learning Outcomes	Teacher's activities	Resources	Specific Learning Outcomes	Teacher's activities	Resources
General Objective 1: Know basic to Scientific programming Language						
1	Be able to discuss The features of scientific programming languages.	Discuss the futures of scientific programming languages. State examples of scientific programming languages	PC loaded with OOFORTRAN compiler; connected to OHP Power point presentation of lecture notes. On line lecture notes.	Be able to identify the scientific features in a given problem.	Guide students to identify scientific programming features in a given problem	Networked PC's loaded with OOFORTRAN compiler
General Objective 2: 0 Know the basic concepts of OOFORTRAN						
2-3	Be able to discuss • The OOFORTRAN character set • Constants • Variables and their various types.	Describe OOFORTRAN character set. Describe constants and its various types Describe variable and its various types. List the rules for forming variables in OOFORTRAN	PC loaded with OOFORTRAN compiler; connected to OHP Power point presentation of lecture notes. On line lecture notes.	Be able to use different types of constants in FORTRAN program. Be able to form Valid variables	Guide students to use different types of constants in OOFORTRAN program Demonstrate how to form valid variables	Networked PC's loaded with OOFORTRAN compiler
General Objective 3: Understand Arithmetic Operations and Expressions						
4-5	Be able to discuss: • the arithmetic operations in OOFORTRAN: • The standard mathematical function. • The Boolean operations. • The string operations. • The Arithmetic, Boolean and string expressions.	Describe the arithmetic operations in FORTRAN the standard mathematical functions. the Boolean operations the string operations Arithmetic, Boolean and string expressions.	PC loaded with OOFORTRAN compiler; connected to OHP Power point presentation of lecture notes. On line lecture notes.	Be able to use Mathematical, Boolean and String expressions	Guide students on how to use Mathematical, Boolean and String operators Demonstrate the use of Mathematical, Boolean and String expression using a simple OOFORTRAN program.	Networked PC's loaded with OOFORTRAN compiler

Theoretical Content				Practical Content		
Week/s	Specific Learning Outcomes	Teacher's activities	Resources	Specific Learning Outcomes	Teacher's activities	Resources
General Objective 4: 0 Know OOFORTRAN Statements						
6	Ability to understand: • The arithmetic, Data type, input and output statements.	Discuss: OOFORTRAN arithmetic statements e.g. assignment, parameter, Data e.t.c. Data type statements e.g. integer, real, character, double precision, complex, implicit, etc. The coding convention. The input statement e.g. read The output statement e.g. writes. Formatted input statement. Formatted output statement. FORMAT statement e.g. I, F, X, T, A, H, E, D, G, L formats etc.	PC loaded with OOFORTRAN compiler; connected to OHP Power point presentation of lecture notes. On line lecture notes.	Be able to use Arithmetic, Input and Output statements in FORTRAN programs.	Demonstrate how to use Arithmetic, Input and Output statements in OOFORTRAN using simple Programs	Networked PC's loaded with OOFORTRAN compiler

Theoretical Content				Practical Content		
Week/s	Specific Learning Outcomes	Teacher's activities	Resources	Specific Learning Outcomes	Teacher's activities	Resources
General Objective 5: Understand the control statements						
7-8	Be able to discuss <ul style="list-style-type: none"> the various control statements used in OOFORTRAN e.g. block IF, Nested IF, DO-ENDDO 	Discuss <ul style="list-style-type: none"> Block-1F statements. The Nested if statement. The Base if statement. The Logical if statement. The Arithmetic if statement. The Case statement. The Conditional GOTO statement Discuss Looping using: <ul style="list-style-type: none"> The DO-ENDDO statement. The nested DO-END DO The implied Do-ENDDO Discuss the rules governing the use of DO-ENDDO Statements <p>Explain the stop statement.</p>	PC loaded with OOFORTRAN compiler; connected to OHP <p>Power point presentation of lecture notes.</p> <p>On line lecture notes.</p> <p>PC loaded with OOFORTRAN compiler; connected to OHP</p> <p>Power point presentation of lecture notes.</p> <p>On line lecture notes.</p>	Be able to use the various Control statements <p>Be able to use various loop statements in OOFORTRAN</p>	Guide Students on how to use the Various Control statements available in OOFORTRAN <p>Demonstrate how to implement looping using the various loop statements available in OOFORTRAN.</p>	Networked PC's loaded with OOFORTRAN compiler <p>Networked PC's loaded with OOFORTRAN compiler</p>

Theoretical Content				Practical Content		
Week/s	Specific Learning Outcomes	Teacher's activities	Resources	Specific Learning Outcomes	Teacher's activities	Resources
General Objective 6: Know the use and Application of Arrays						
9-11	Be able to discuss <ul style="list-style-type: none"> • Array • Array elements in FORTRAN • The concept of one dimensional and multidimensional arrays. 	Discuss arrays Describe the use of Array elements in FORTRAN statements <ul style="list-style-type: none"> • Describe the use of one-dimensional Arrays. • Describe the use of multi-dimensional Arrays. 	PC loaded with OOFORTRAN compiler; connected to OHP Power point presentation of lecture notes. On line lecture notes.	Be able to implement arrays in OOFORTRAN programs	Guide students on how to implement One and Multiple dimensional arrays in OOFORTRAN program.	Networked PC's loaded with OOFORTRAN compiler
General Objective 7: Know the implementation of structured programming in OOFOTRAN						
12-13	Be able to discuss: <ul style="list-style-type: none"> • the concepts of subroutine: • Automatic arrays, modules procedures, FORTRAN functions and Recursive procedure. 	Discuss: <ul style="list-style-type: none"> Subroutines Automatic arrays Sharing of data using modules. Modules procedures FORTRAN functions Passing of functions or subroutines as argument to procedures. Recursive procedures. 	PC loaded with OOFORTRAN compiler; connected to OHP Power point presentation of lecture notes. On line lecture notes.	Be able to use Subroutines, Automatic arrays, Module procedures and Recursive procedures in FORTRAN programs	Use examples to demonstrate the implementation of subroutine, Automatic arrays, Functions, Modules procedures Recursive procedures.	Networked PC's loaded with OOFORTRAN compiler

Theoretical Content				Practical Content		
Week/s	Specific Learning Outcomes	Teacher's activities	Resources	Specific Learning Outcomes	Teacher's activities	Resources
General Objective 8: Understand the use of pointers						
14	Be able to discuss the to allocate arrays, and pointers.	Discuss Allocation of arrays Pointers	Ditto	Be able to: allocate arrays and pointers	Guide students on how to use arrays and Pointers	Networked PC's loaded with OOFORTRAN compiler
General Objective 9: Know object oriented features of OOFORTRAN						
15	Be able to discuss: • the object oriented features of OOFORTRAN	Discuss Object Oriented programming. Describe Object Oriented features of OOFORTRAN	Ditto	Be able to identify Object Oriented Features of OOFORTRAN	Demonstrate the concept of Object oriented Programming	Networked PC's loaded with OOFORTRAN compiler

Assessment: Give details of assignments to be used: Lab Activities 25 Assignment 25%; Examination 50 %

Type of Assessment	Purpose and Nature of Assessment (COM 221)	Weighting (%)
Examination	Final Examination (written) to assess knowledge and understanding	50
Lab Activities	Work carried out in the Lab	25
Assignment	Appropriate No of assignment set by the teacher.	25
Total		100

Recommended Textbooks & References:

Course: Seminar on Computer and Society

Department/ Programme: COMPUTER SCIENCE (ND)			
Course: SEMINAR ON COMPUTER AND SOCIETY	Course Code: COM 225 COM 222	Credit Hours:	2 hours/week
Year: Semester:	Pre-requisite: None	Theoretical:	2 hours/week
		Practical:	hours /week
General Objectives			
1. Understand the impacts of computer in society			

Theoretical Content				Practical Content		
Week/s	Specific Learning Outcomes	Teacher's activities	Resources	Specific Learning Outcomes	Teacher's activities	Resources
General Objective 1: UNDERSTAND THE IMPACTS OF COMPUTER IN SOCIETY						
1	To Understand: • The purpose of Computer in Society	TO: inform students of the nature of the course and modalities for implementation	Classroom flip charts Board PC with Power point presentation software installed			
2	• The importance of Computers in Education.	Collect topics from students and approve appropriately				
3	• The importance of Computer in manufacturing industries.	Present seminar on some current topics and also invite other professionals/colleagues to present seminars on current topics to students.				
4	• The importance of Computers in Business, Banking and Finance					
5	• The importance of Computers in Transport.					
6	• The importance of Computers in legal forms					
7	• The importance of Computers in Tourism					
8	• Present Seminars	Arrange the students/sessions for the student's presentations.				
9	• Present Seminars	Arrange sessions for student's presentations.				
10	• Present Seminars					
11	• Present Seminars					
12	• Present Seminars					
13	• Present Seminars	Solve questions for students.				
14	• Present Seminars					
15	• Prepare students for Examination					

Course: Basic Hardware Maintenance

Department/ Programme: Computer Science			
Course: Basic Hardware Maintenance	Course Code: COM 223	Credit Hours:	5 hours/week
Year: Two Semester: Two	Pre-requisite: COM 112	Theoretical:	hours/week 2
		Practical:	hours /week 3
General Objectives			
<ol style="list-style-type: none">1. Understand the basic electric current theory.2. Understand the function of circuit components.3. To be able to use basic general measuring equipments4. Understand integrated circuit and terminologies.5. Understand preventative maintenance of hardware components.6. Understand diagnostic techniques involved in corrective maintenance.7. Understand computer installation procedure.			

Theoretical Content				Practical Content		
Week/s	Specific Learning Outcomes	Teacher's activities	Resources	Specific Learning Outcomes	Teacher's activities	Resources
General Objective 1: Comprehension of Basic Electric Theory.						
1 - 2	To understand the basic electric theory.	To explain: Voltage, Current, sources Ohm's Law Kerchief's laws Therenin theory.	White board. OHP connected to a PC. Loaded with an appropriate simulation package such as Electronic work bench.	Ability to use a Voltage /current source in a circuit, and to test and verify the electric theory.	To assist student in setting up small circuits to verify the basic electric theory, using either hardware or simulated packages.	Voltage source, various measuring devices, PC loaded with a simulation package. Function boards connected to a PC.
General Objective 2: Understand the function of circuit components.						
3-4	To Understand the function of circuit components	To explain: The functions ratings, and application of passive circuit components. The functions, rating and applications of active circuit components.	White board. OHP connected to a PC. Loaded with an appropriate simulation package such as Electronic work bench.	Ability to test active and passive circuits.	To assist student in setting up small circuits to test circuit components of passive and active components.	Voltage source, various measuring devices, PC loaded with a simulation package. Function boards connected to a PC.
General Objective 3: To be able to use basic general measuring equipments						
5-6	The ability to understand the operations and principles of basic measuring instruments.	To introduce and explain the operation of maintenance tools such as, Multimeters, Oscilloscopes. To explain how to use multimeters to measure current voltage, resistance, inductance, capacitance. To explain how an Oscilloscope is used to observe signals, pulses, To explain how diagnostic operations are performed in fault finding.	White board. OHP connected to a PC. Loaded with an appropriate simulation package such as Electronic work bench Oscilloscope with projection facilities.	The ability to use basic measuring equipments and perform fault diagnostics and maintenance of electrical and electronic circuits.	To assist student in using basic measuring devices to perform fault diagnostics and parameter measurements and perform repairs and maintenance of electrical and electronic circuits.	Voltage source, various measuring devices, PC loaded with a simulation package. Function boards connected to a PC.

Theoretical Content				Practical Content		
Week/s	Specific Learning Outcomes	Teacher's activities	Resources	Specific Learning Outcomes	Teacher's activities	Resources
General Objective 4: To understand integrated circuits and Terminologies.						
7 - 8	To Understand Integrated Circuit and Terminologies	<p>To explain the Various terminologies for characterising logic circuits, such as fan out, fan in, noise margin, Voltage tolerance,....etc.</p> <p>State different attributes of logic families, such as Handling care, voltage tolerance, switching speeds,....etc</p> <p>To show some IC pin arrangement such as dual-in-line DI2, strait line, circular, quad, etc.....</p>	<p>White board. OHP connected to a PC. Loaded with an appropriate simulation package such as Electronic work bench with projection facilities.</p> <p>Data sheets of lcs various slides in electronic format to be projected.</p>	The ability to use basic measuring equipments and perform fault diagnostics and maintenance of electrical and electronic circuit	To assist the student to perform measuring tasks, perform diagnostic operations, and maintenance.	<p>Voltage source, various measuring devices, PC loaded with a simulation package.</p> <p>Function boards connected to a PC. Various IC and discrete components.</p>
General Objective 5: Understand preventative maintenance of hardware components.						
9 -10	To show awareness of the importance of preventative measures in system maintenance and Hardware care.	<p>To explain: The use of maintenance log book.</p> <p>The importance of preventative maintenance applied to hardware.</p> <p>The properties of drives, such as head alignment, clearance, characteristics....etc.</p> <p>The steps in dust prevention procedures.</p> <p>How to carry out routine cleaning</p>	<p>PC connected to an HP projector, White board,</p> <p>Electronic slides showing system components and maintenance routing being performed.</p> <p>Audio Visual programs showing the process.</p>	The ability to carry out preventative system maintenance.	To assist student in taking part in preventative system maintenance.	Various systems and systems Component to be used as examples.

Theoretical Content				Practical Content		
Week/s	Specific Learning Outcomes	Teacher's activities	Resources	Specific Learning Outcomes	Teacher's activities	Resources
General Objective 6: Understand diagnostic techniques involved in corrective maintenance.						
11-12	To show awareness and understand procedures to repair and restore hardware functionality.	To explain: Trouble-shooting methodology The methods of testing IC with appropriate tools. The need for diagnostic programs. Eg partition checks, virus detectors, file allocation tables checkersetc. How to use diagnostic programs in restoring system functionality.	PC connected to an HP projector, White board, Audio Visual programs showing the process.	The ability to perform system repair and restoration of hardware functionality.	To assist student in carrying out system repair and restoration of hardware/software functionality.	PC and various diagnostic tools/hardware and software.
General Objective 7: Understand system installation procedure						
13-15	To show awareness and understand the background and procedures needed for system installation.	To explain: Site preparation methods The requirements for equipment inventory. Modular testing procedures and its advantages. How to use installation manuals The pre-installation checks of a computer system. e.g. electric voltages(220 vs. 110 Volts, physical connections.....etc	PC connected to an HP projector, White board, Audio Visual programs showing the installation process.	The ability to install systems and test its functionality.	To assist student in carrying out system installation and testing its functionality.	PC components for hardware installation. Software installation packs and relevant manuals for system installation.

Assessment: Give details of assignments to be used: Coursework/ Assignments 50 %; Lab Activities 50 %; Practical Examination 100 %

Type of Assessment	Purpose and Nature of Assessment (COM 223)	Weighting (%)
Examination	Final Examination (written) to assess knowledge and understanding	100
Lab Activities	Work carried out in the Lab	50
Assignment	Appropriate No of assignment set by the teacher.	50
Total		100

The overall grade is 40% of the examination mark and 60% lab activities & assignment.

Recommended Textbooks & References:

Course: Management Information Systems

Programme: Statistics (National Diploma)			
Course: Management Information Systems	Course Code: COM 224	Contact Hours:	4 hours/week
Year: 2 Semester: 4	Pre-requisite: COM101, COM103	Theoretical:	2 hours /week
		Practical:	2 hours /week
Goal: This course is designed to enable introduce students to management information systems			
General Objectives: On completion of this course the diplomat should be able to:			
<ol style="list-style-type: none">1. Know different systems.2. Understand systems theory.3. Understand the concept of management information.4. Know the features of management information systems (MIS)5. Understand the concept of transaction processing.6. Understand the concept of office automation.7. Understand the different applications of MIS.8. Understand the principles of decision making9. Know the development cycle of an MIS10. Understand the principles of project management.11. Understand total systems.			

Theoretical Content				Practical Content		
Week	Specific Learning Outcomes	Teacher's activities	Resources	Specific Learning Outcomes	Teacher's activities	Resources
General Objective 1 (COM 224): Know different systems.						
1	<p>1.1 Understand a system and its characteristics.</p> <p>1.2 Understand the taxonomy of systems; deterministic, probabilities, static, dynamic etc.</p> <p>1.3 Understand organization and business education as make up of systems or subsystems</p>	<p>Define a system</p> <p>State the characteristics of a system.</p> <p>Explain the taxonomy of a system: deterministic, probabilistic, static, dynamic etc.</p> <p>Explain organizations, business, education, etc as made up of systems or subsystems</p>	<p>A flip chart.</p> <p>OHP connected to PC.</p> <p>Power point presentation of Lecture notes.</p> <p>On line lecture notes.</p> <p>White board.</p>	To be able to develop a simple MIS	To assist student in developing a simple MIS	<p>OHP connected to PC.</p> <p>Networked PC laboratory, with internet access loaded with MIS packages.</p>
General Objective 2 (COM 224): Understand systems theory.						
2	<p>2.1 Understand closed and open loop systems.</p> <p>2.2 Understand feedback control n a system</p> <p>2.3 Understand a system model</p> <p>2.4 Understand how to represent a system</p>	<p>Distinguish between closed and open loop systems.</p> <p>Explain feed back control in system.</p> <p>Define a system model</p> <p>List types of models</p> <p>Represent systems as models.</p>	<p>A flip chart.</p> <p>OHP connected to PC.</p> <p>Power point presentation of Lecture notes.</p> <p>On line lecture notes.</p> <p>White board.</p>	To be able to develop a simple MIS	To assist student in developing a simple MIS	<p>OHP connected to PC.</p> <p>Networked PC laboratory, with internet access loaded with MIS packages.</p>
General Objective 3 (COM 224): Understand the concept of management information.						
3	<p>3.1 Understand management and it's functions</p>	<p>Define management</p> <p>List the functions of management</p>	<p>A flip chart.</p> <p>OHP connected to PC.</p> <p>Power point presentation of</p>	To be able to develop a simple MIS	To assist student in developing a simple MIS	<p>OHP connected to PC.</p> <p>Networked PC laboratory, with internet access loaded with MIS packages.</p>

Theoretical Content				Practical Content		
Week	Specific Learning Outcomes	Teacher's activities	Resources	Specific Learning Outcomes	Teacher's activities	Resources
			Lecture notes. On line lecture notes. White board.			
4	3.2 Understand information needs of management levels. 3.3 Understand attributes of information	Explain the information needs of management levels. Explain and give attributes of information	A flip chart. OHP connected to PC. Power point presentation of Lecture notes. On line lecture notes. White board.	To be able to develop a simple MIS	To assist student in developing a simple MIS	OHP connected to PC. Networked PC laboratory, with internet access loaded with MIS packages.
General Objective 4 (COM 224): Know the features of management information systems (MIS)						
5	4.1 Understand an information system and it's characteristics. 4.2 Understand a management information system. 4.3 Appreciate the importance of MIS to business organizations. 4.4 Recognise features of information systems	Define information system. Explain the characteristics of an information system. Define management information system. Explain the importance of MIS to business organization. Explain the features of an information system.	A flip chart. OHP connected to PC. Power point presentation of Lecture notes. On line lecture notes. White board.	To be able to develop a simple MIS	To assist student in developing a simple MIS	OHP connected to PC. Networked PC laboratory, with internet access loaded with MIS packages

Theoretical Content				Practical Content		
Week	Specific Learning Outcomes	Teacher's activities	Resources	Specific Learning Outcomes	Teacher's activities	Resources
General Objective 5 (COM 224): Understand the concept of transaction processing.						
6	5.1 Understand the concept of data and information	Explain concept of data and information.	A flip chart.	To be able to develop a simple MIS	To assist student in developing a simple MIS	OHP connected to PC. Networked PC laboratory, with internet access loaded with MIS packages.
	5.2 Understand data capture	Explain data processing stages.	OHP connected to PC. Power point presentation of Lecture notes.			
	5.3 Understand verification and validation	Explain the concepts of data capture, verification and validation.	Lecture notes.			
	5.4 Understand data processing stages	Explain concepts of a database management system (DBMS)	On line lecture notes.			
	5.5 Understand the concept of a database management system (DBMS), including insertion, delete and update operations.	Explain insertion, deletion and update operations	White board.			
General Objective 6 (COM 224): Understand the concept of office automation.						
7	6.1 Understand office automation and it's components, e-mail, voice mail, fax machine, teleconferencing	Define office automation. Explain components of office a Automation i.e. e-mail, voice-mail fax machine, teleconferencing,	A flip chart. OHP connected to PC. Power point presentation of Lecture notes.	To be able to develop a simple MIS	To assist student in developing a simple MIS	OHP connected to PC. Networked PC laboratory, with internet access loaded with MIS packages
	6.2 Understand telecommuting	Explain telecommuting.	Lecture notes.			
	6.3 Understand the importance of office automation (OA) to an organization	Explain the importance of office automation (O.A.) to an organization.	On line lecture notes. White board.			

Theoretical Content				Practical Content		
Week	Specific Learning Outcomes	Teacher's activities	Resources	Specific Learning Outcomes	Teacher's activities	Resources
General Objective 7 (COM 224): Understand the different applications of MIS.						
8	7.1 Understand various types of information systems and their objectives. 7.2 Recognise the elements required for any information system 7.3 Understand reports required for any types of information system	List the various types of information system. Explain the objectives of each type of information system Explain the elements required for any information system. Explain the nature of reports required for each type of information system.	A flip chart. OHP connected to PC. Power point presentation of Lecture notes. On line lecture notes. White board.	To be able to develop a simple MIS	To assist student in developing a simple MIS	OHP connected to PC. Networked PC laboratory, with internet access loaded with MIS packages.
9	7.4 Understand sources of data for each type of information system 7.5 Understand the information needs, strategic technical and operational advantages of MIS	Identify sources of data for each type of information system. Identify information needs: strategic, technical, and operational. Identify some advantages of MIS	A flip chart. OHP connected to PC. Power point presentation of Lecture notes. On line lecture notes. White board.	To be able to develop a simple MIS	To assist student in developing a simple MIS	OHP connected to PC. Networked PC laboratory, with internet access loaded with MIS packages.
General Objective 8 (COM 224): Understand the principles of decision making						
10	8.1 Understand the stages in decision making 8.2 Understand various approaches to decision making 8.3 Undertake application of some decision making techniques	Explain decision making. Teacher to represent this diagrammatically. Teacher to explain the approaches to decision making. Teacher to give students a case study on decision making techniques	A flip chart. OHP connected to PC. Power point presentation of Lecture notes. On line lecture notes. White board.	To be able to develop a simple MIS	To assist student in developing a simple MIS	OHP connected to PC. Networked PC laboratory, with internet access loaded with MIS packages

Theoretical Content				Practical Content		
Week	Specific Learning Outcomes	Teacher's activities	Resources	Specific Learning Outcomes	Teacher's activities	Resources
General Objective 9 (COM 224): Know the development cycle of an MIS						
11	9.1 Understand the need for information system development	Explain the need for information system development	A flip chart. OHP connected to PC. Power point presentation of Lecture notes. On line lecture notes. White board.	To be able to develop a simple MIS	To assist student in developing a simple MIS	OHP connected to PC. Networked PC laboratory, with internet access loaded with MIS packages.
12	9.2 Understand the phases and importance in the development cycle of MIS	Identify the phases in the development cycle of MIS State the importance of each phase Describe each of the phases of the development cycle of an MIS.	A flip chart. OHP connected to PC. Power point presentation of Lecture notes. On line lecture notes. White board.	To be able to develop a simple MIS	To assist student in developing a simple MIS	OHP connected to PC. Networked PC laboratory, with internet access loaded with MIS packages.
General Objective 10 (COM 224): Understand the principles of project management.						
13	10.1 Understand project management and its objectives. 10.2 Understand some tools used in project management and their application	Define project management Explain the objectives of project management. Identify tools to be used in project management. Apply the tools	A flip chart. OHP connected to PC. Power point presentation of Lecture notes. On line lecture notes. White board.	To be able to develop a simple MIS	To assist student in developing a simple MIS	OHP connected to PC. Networked PC laboratory, with internet access loaded with MIS packages.

Theoretical Content				Practical Content		
Week	Specific Learning Outcomes	Teacher's activities	Resources	Specific Learning Outcomes	Teacher's activities	Resources
General Objective 11 (COM 224): Understand total systems.						
14	11.1 Understand the objectives of a total system. 11.2 Understand rationalization of information flows, timing and accuracy of destination of output.	State the objectives of a total system Explain rationalizing information flows, timing and accuracy of destination of output.	A flip chart. OHP connected to PC. Power point presentation of Lecture notes. On line lecture notes. White board.	To be able to develop a simple MIS	To assist student in developing a simple MIS	OHP connected to PC. Networked PC laboratory, with internet access loaded with MIS packages.
15	11.3 Understand the effect of time lag on inputs 11.4 Understand the effect of deviating from standards.	Explain the effect of time lag on inputs. Explain the effect of deviating from standards. Develop an MIS.	A flip chart. OHP connected to PC. Power point presentation of Lecture notes. On line lecture notes. White board.	To be able to develop a simple MIS	To assist student in developing a simple MIS	OHP connected to PC. Networked PC laboratory, with internet access loaded with MIS packages.

Assessment: Give details of assignments to be used: Coursework/ Assignments %; Course test %; Practical %; Projects %; Examination %

Type of Assessment	Purpose and Nature of Assessment (COM 224)	Weighting (%)
Examination	Final Examination (written) to assess knowledge and understanding	50
Test	At least 2 progress tests for feed back.	20
Practical	At least 5 homework to be assessed by the teacher	30
Total		100

Recommended Textbooks & References:

Course: Web Technology

Department/ Programme: COMPUTER SCIENCE ND			
Course: WEB TECHNOLOGY	Course Code: COM 225	Credit Hours:	6 hours/week
Year: 2 Semester: 2	Pre-requisite: COM 122	Theoretical:	2 hours/week
		Practical:	4 hours /week
GENERAL OBJECTIVES: On completion of this course the student should be able to:			
1.0 Know the fundamental concepts of WWW.			
2.0 Understand Hypertext mark-up language HTML			
3.0 Understand scripting for HTML.			
4.0 Understand DH TML.			
5.0 Understand cascading style sheets.			
6.0 Understand dynamic content.			
7.0 Know web development tools.			
8.0 Understand Multimedia.			
9.0 Know XML.			

Theoretical Content				Practical Content		
Week/s	Specific Learning Outcomes	Teacher's activities	Resources	Specific Learning Outcomes	Teacher's activities	Resources
General Objective 1:						
1	Ability to understand <ul style="list-style-type: none"> • Internet concept • Web (WWW) definition • WWW history outline • Anatomy of WWW connection • how a WWW page works • how mark-up languages work • How hypertext works • How Universal Resource Location (URL) works 	1.1 Define internet. 1.2 Define world wide web (WWW) 1.3 Outline the history of WWW. 1.4 Explain the Anatomy of a Web connection. 1.5 Explain how a web page works. 1.6 Explain how mark-up languages work. 1.7 Explain how hypertext works. 1.8 Explain how URL works.	P.C connected to OHP Power point presentation of Lecture notes. On line lecture notes	Ability to brose the internet. Apply different URL and to examine a very basic HTML file written which when manifested give rise to a web page.	To help student to: Brose the net Apply different URLs Examine simple web page written in HTML	Networked PC Lab connected to the internet.. Web application packages such as Dream weaver, MS front page
General Objective 2: Understand creation and customizing in HTML						
3	Ability to understand <ul style="list-style-type: none"> • Functions of HTML. • Planning of an HTML document. • Writing of an HTML document. • Preview and editing of a web page. • Creating links to other web pages. • Printing of an HTML document. • Creation of ordered/unordered list in HTML document. • Customizing font and Controlling font selection • Aligning text in HTML document. 	2.1 State functions of HTML. Text formatting, hyperlinks, tables and lists, graphics, sound and video support. 2.2 Plan and write a HTML document. 2.3 Preview and edit a web page. 2.4 Create links to other web pages. 2.5 Print an HTML document. 2.6 Create ordered list in HTML document. 2.7 Create unordered list in HTML document. 2.8 Control font selection in HTML document. 2.9 Customize fonts in HTML document. 2.10 Align text in HTML document.	P.C connected to OHP Power point presentation of Lecture notes. On line lecture notes	To write a simple HTML based document To Create a simple web page. To be able to use various HTML tags to enhance quality and appearance of a web page.	.Assists students in performing their Lab work	Networked PC Lab connected to the internet.. Web application packages such as Dream weaver, MS front page

Theoretical Content				Practical Content		
Week/s	Specific Learning Outcomes	Teacher's activities	Resources	Specific Learning Outcomes	Teacher's activities	Resources
4	To understand how to: <ul style="list-style-type: none"> • Insert graphic insertion and specify graphic size. • Link graphics in HTML document. • Insert on image map in HTML document. • Add background image in HTML document. • Explore multimedia options. 	2.11 Insert graphics and specify graphic size. 2.12 Link graphics in HTML document. 2.13 Insert on image map in HTML document. 2.14 Add background image in HTML document. 2.16 Explore multimedia options.	P.C connected to OHP Power point presentation of Lecture notes. On line lecture notes	Ability to: Add graphics and multimedia to HTML documents	.Assists students in performing their Lab work	Networked PC Lab connected to the internet.. Web application packages such as Dream weaver, MS front page
5	To understand 2.11 Use of forms to control input. 2.12 Creating a text entry field. 2.13 Adding radio buttons. 2.14 Adding checkboxes 2.21 Creating a pull down menu 2.22 Adding a push button 2.23 Connecting forms back end.	2.15 Use forms to control input. 2.16 Create a text entry field. 2.17 Add radio buttons. 2.18 Add checkboxes 2.21 Create a pull down menu 2.22 Add a push button 2.23 Connect a forms back end.	P.C connected to OHP Power point presentation of Lecture notes. On line lecture notes	To Plan a form and use it to control input.	Assists students in performing their Lab work	Networked PC Lab connected to the internet.. Web application packages such as Dream weaver, MS front page
6	Ability to understand <ul style="list-style-type: none"> • table creation and manipulations • pay out control • creation of navigational bar, tramerat, and target links. • formatting frame borders • creating a structuring table • adding two toned background • creating a template 	2.24 Work with tables; create a simple table span rows. 2.25 Format borders modify table backgrounds, change table dimensions; align table counters; portion page elements. 2.26 Control pay layout. 2.27 Create a navigational bar. 2.28 Create a tram rat 2.29 Create target links 2.30 Format frame boarders 2.31 Create a structuring table 2.32 Add a two toned background 2.33 Create a template.	P.C connected to OHP Power point presentation of Lecture notes. On line lecture notes	The ability to Plan a table out illustrate table concepts. Illustrate web principles.		Networked PC Lab connected to the internet.. Web application packages such as Dream weaver, MS front page

Theoretical Content				Practical Content		
Week/s	Specific Learning Outcomes	Teacher's activities	Resources	Specific Learning Outcomes	Teacher's activities	Resources
General Objective 3: Understand scripting for HTML.						
7 -8	To understand how to perform scripting in an HTML documents.	3.1 To Explain the advantages of using scripting with HTML (Flexibility, Simplification immediate response, improved interactivity, reduced server loads)	P.C connected to OHP Power point presentation of Lecture notes. On line lecture notes	Ability to: Create & design scripts using objects Design & implement scripts, using Java scripts event handlers. Create functions, assign variables, Create conditional scripts.	Assist students in their practical work.	. Networked PC Lab connected to the internet.. Web application packages such as Dream weaver, MS front page
General Objective 4: Understand Dynamic Hypertext mark-up language (DHTML).						
9 -10	To understand DHTML, its building blocks, object models design.	4.1 Define dynamic HTML 4.2 Explain the building blocks of DHTML 4.3 Tour DHTML pages 4.4 Describes DHTML object model 4.5 Describe Browser variability 4.6 Design D HTML pages 4.7 Research into code architecture 4.8 Keep up with DHTML charges.	P.C connected to OHP Power point presentation of Lecture notes. On line lecture notes	The ability to design and implement web page using DHTML.	Provide guidance and assistance in student practical work.	Networked PC Lab connected to the internet.. Web application packages such as Dream weaver, MS front page
General Objective 5: Understand cascading style sheets						
11	To understand creation of embedded style sheet, class criterion, and Browser detect.	Explain 5.1 Show and hide page elements 5.2 Change font size dynamically 5.3 Control font colour dynamically 5.4 Use external style sheet for above.	P.C connected to OHP Power point presentation of Lecture notes. On line lecture notes	The ability to: Create an embedded style sheet, and class. Implement browsers detection. Show and hide page elements Chang font size, font colour dynamically Use external style sheet in a document.	Provide guidance and assistance in student practical work.	Networked PC Lab connected to the internet.. Web application packages such as Dream weaver, MS front page

Theoretical Content				Practical Content		
Week/s	Specific Learning Outcomes	Teacher's activities	Resources	Specific Learning Outcomes	Teacher's activities	Resources
General Objective 6: 6.0 Understand dynamic content.						
12	To understand the dynamic content by <ul style="list-style-type: none"> • inserting and deleting dynamically • Replacing graphics dynamically • Bind and manipulate data dynamically 	Explain dynamic content by <ul style="list-style-type: none"> • Inserting content dynamically • Deleting content dynamically • Modifying, Content Dynamically • Incorporating assent advanced content function. • Replacing graphics dynamically. • Bind data • Manipulate bound data dynamically. 	P.C connected to OHP Power point presentation of Lecture notes. On line lecture notes	Ability to: Insert, delete, and modify content dynamically. Incorporate assent advanced content function. Replace graphics, bind data dynamically.	Provide guidance and assistance in student practical work.	Networked PC Lab connected to the internet.. Web application packages such as Dream weaver, MS front page
General Objective 7.0 Know web development tools.						
13	To understand: The tools for Web development.	Explain how to <ul style="list-style-type: none"> 7.1 Position an element absolutely. 7.2 Position an element relatively 7.3 Size an element manually 7.4 Stack screen elements 7.5 Add a scroll bar 7.6 Create a side bar 7.7 Incorporate an advanced positioning function. 	P.C connected to OHP Power point presentation of Lecture notes. On line lecture notes	Ability to: Position an element absolutely, relatively. Size an element manually. Stack screen elements Add a scroll bar, and create side bar. Incorporate an advanced positioning function.	Provide guidance and assistance in student practical work.	Networked PC Lab connected to the internet.. Web application packages such as Dream weaver, MS front page
General Objective 8: Understand Multimedia						
14	To understand: The operation of Web application development Packages	Explain: The operation of Graphic packages such as: PhotoShop, Animation Packages, Dreamweaver, Flash,	P.C connected to OHP Power point presentation of Lecture notes. On line lecture notes	Ability to: Use web application software and to develop a simple web application.	Provide guidance and assistance in student practical work.	Networked PC Lab connected to the internet.. Web application packages such as Dream weaver, MS front page, Flash, PhotoShop

Theoretical Content				Practical Content		
Week/s	Specific Learning Outcomes	Teacher's activities	Resources	Specific Learning Outcomes	Teacher's activities	Resources
General Objective 9: Understand the operation and usage of XML						
15	To understand: The operation and application of	To provide: An introduction to XML To demonstrate how XML is used To explain the advantages of using XML	P.C connected to OHP Power point presentation of Lecture notes. On line lecture notes	Ability to: Use XML package and apply to a given case.	Provide guidance and assistance in student practical work.	Networked PC Lab connected to the internet.. XML and CSS packages

Assessment: Give details of assignments to be used: Coursework/ Assignments 20 %; Course test 10 %; Practical 50 %; Projects %; Examination 20 %

Type of Assessment	Purpose and Nature of Assessment (COM 225)	Weighting (%)
Examination	Final Examination (written) to assess knowledge and understanding	20
Test	At least 1 progress test for feed back.	10
Practical / Projects	To be assessed by the teacher	50
Course work/ assignment	To be assessed by the teacher	20
Total		100

Recommended Textbooks & References:

Course: Computer System Troubleshooting II

Department/ Program: ND Computer Science			
Course: Computer System Troubleshooting II	Course Code: COM 226	Contact Hours:	5 hours/week
Year: Two Semester: Two	Pre-requisite: COM 216	Theoretical:	1 hours/week
		Practical:	4 hours /week
General Objectives:			
The course Provides the knowledge and skills to begin to repair Hardware & software			
<ol style="list-style-type: none">1. To understand Serial, parallel and USB failure symptoms2. To understand printers failure symptoms problems3. To understand dial up failure symptoms problems4. To understand common start-up failure symptoms5. To understand illegal operational failure symptoms6. To understand virus protection utility failure symptoms7. To understand networks failure symptoms			

Theoretical Content				Practical Content		
Week/s	Specific Learning Outcomes	Teacher's activities	Resources	Specific Learning Outcomes	Teacher's activities	Resources
General Objective: Serial, parallel and USB problems						
1-2	<p>To understand:</p> <p>The cause of serial, parallel and USB port failure.</p>	<p>To explain:</p> <p>How to recognise POST error message code as serial, parallel and USB failure.</p> <p>Serial, parallel and USB failure remedy.</p>	<p>PC connected to an OHP.</p> <p>Power Point presentation of Lectures.</p> <p>On line lecture notes.</p> <p>Smart/White board</p>	<p>The ability to:</p> <p>Recognise POST error message code as an indication of a serial, parallel and USB problem.</p> <p>Rectify the serial, parallel and USB problem by reinsertion or replacement</p>	<p>To help student to:</p> <p>Recognise POST error message code as an indication of a serial, parallel and USB problem.</p> <p>Rectify the serial, parallel and USB problem by reinsertion or replacement</p>	<p>Personal computer loaded with diagnostics packages</p>
General Objective: To understand printers failure symptoms problems						
3-4	<p>To understand:</p> <p>The cause of printer's failure.</p>	<p>To explain:</p> <p>How to recognise POST error message code as printer's failure.</p> <p>To list possible:</p> <p>Hardware faulty: e.g. connection problems. Power fault</p> <p>Software faulty: e.g. driver installation Conflict</p> <p>Printer's failure remedy.</p>	<p>PC connected to an OHP.</p> <p>Power Point presentation of Lectures.</p> <p>On line lecture notes.</p> <p>Smart/White board</p>	<p>The ability to:</p> <p>Recognise POST error message code as an indication of a printer's problem.</p> <p>Rectify the printers problem by reinsertion or replacement</p>	<p>To help student to:</p> <p>Recognise POST error message code as an indication of a printer's problem.</p> <p>Rectify the printers problem by reinsertion or replacement</p>	<p>Personal computer loaded with diagnostics packages</p>

Theoretical Content				Practical Content		
Week/s	Specific Learning Outcomes	Teacher's activities	Resources	Specific Learning Outcomes	Teacher's activities	Resources
General Objective: To understand MODEM failure symptoms problems						
5-6	<p>To understand:</p> <p>The cause of MODEM failure.</p>	<p>To explain:</p> <p>How to recognise POST error message code as MODEM failure.</p> <p>MODEM failure remedy.</p>	<p>PC connected to an OHP.</p> <p>Power Point presentation of Lectures.</p> <p>On line lecture notes.</p> <p>Smart/White board</p>	<p>The ability to:</p> <p>Recognise POST error message code as an indication of a MODEM problem.</p> <p>Rectify the MODEM problem by reinsertion or replacement</p> <p>Rectify software problems by re-installation.</p>	<p>To help student to:</p> <p>Recognise POST error message code as an indication of a MODEM problem.</p> <p>Rectify the MODEM problem by reinsertion or replacement</p> <p>Investigate a possible hardware faults.</p>	<p>Personal computer loaded with diagnostics packages</p>
General Objective: To understand common windows start-up failure symptoms						
7-8	<p>To understand:</p> <p>The cause of windows start-up failure.</p>	<p>To explain:</p> <p>How to recognise POST error message code as windows start-up failure.</p> <p>To list possible software possible: e.g. Missing file. Conflict</p> <p>Windows start-up failure remedy.</p>	<p>PC connected to an OHP.</p> <p>Power Point presentation of Lectures.</p> <p>On line lecture notes.</p> <p>Smart/White board</p>	<p>The ability to:</p> <p>Recognise POST error message code as an indication of a windows start-up problem.</p> <p>Rectify the windows start-up problem by reinsertion or replacement</p>	<p>To help student to:</p> <p>Recognise POST error message code as an indication of a windows start-up problem.</p> <p>Rectify the windows start-up problem by reinsertion or replacement</p>	<p>Personal computer loaded with diagnostics packages</p>

Theoretical Content				Practical Content		
Week/s	Specific Learning Outcomes	Teacher's activities	Resources	Specific Learning Outcomes	Teacher's activities	Resources
General Objective: To understand illegal operational failure symptoms						
9-10	To understand: The cause of illegal operational failure.	To explain: How to recognise POST error message code as illegal operational failure. Illegal operational failure remedy.	PC connected to an OHP. Power Point presentation of Lectures. On line lecture notes. Smart/White board	The ability to: Recognise POST error message code as an indication of a illegal operational problem. Rectify the illegal operational problem by reinsertion or replacement	To help student to: Recognise POST error message code as an indication of a illegal operational problem. Rectify the illegal operational problem by reinsertion or replacement	Personal computer loaded with diagnostics packages
General Objective: To understand virus protection utility failure symptoms						
10-11	To understand: The cause of virus protection utility failure.	To explain: How to recognise POST error message code as virus protection utility failure. virus protection utility failure remedy.	PC connected to an OHP. Power Point presentation of Lectures. On line lecture notes. Smart/White board	The ability to: Recognise POST error message code as an indication of a virus protection utility problem. Rectify the virus protection utility problem by reinsertion or replacement	To help student to: Recognise POST error message code as an indication of a virus protection utility problem. Rectify the virus protection utility problem by reinsertion or replacement	Personal computer loaded with diagnostics packages
General Objective: To understand networks failure symptoms						
12-13	To understand: The cause of networks failure.	To explain: How to recognise POST error message code as networks failure. Networks failure remedy.	PC connected to an OHP. Power Point presentation of Lectures.	The ability to: Recognise POST error message code as an indication of a networks problem. Rectify the networks problem	To help student to: Recognise POST error message code as an indication of a networks problem. Rectify the networks problem	Personal computer loaded with diagnostics packages

Theoretical Content				Practical Content		
Week/s	Specific Learning Outcomes	Teacher's activities	Resources	Specific Learning Outcomes	Teacher's activities	Resources
			On line lecture notes. Smart/White board	by reinsertion or replacement	by reinsertion or replacement	
General Objective: To understand external devices failure symptoms						
14-15	To understand: The cause of external devices failure.	To explain: How to recognise POST error message code as external devices failure. To list possible hardware faulty: e.g. flash disk not detected. Scanner failure External DVD not detected. External devices failure remedy.	PC connected to an OHP. Power Point presentation of Lectures. On line lecture notes. Smart/White board	The ability to: Recognise POST error message code as an indication of a external devices problem. Rectify the external devices problem by reinsertion or replacement	To help student to: Recognise POST error message code as an indication of an external devices problem. Rectify the external devices problem by reinsertion or replacement	Personal computer loaded with diagnostics packages

Assessment: Give details of assignments to be used: Coursework/ Assignments 0%; Course test 20%; Projects lab activities 50%; Examination 30%

Recommended Textbooks & References:

Course: Project

Department/ Programme: All computing programmes			
Course: Project	Course Code: COM 229	Credit Hours:	4 hours/week
Year: 2 Semester: 2	Pre-requisite:	Theoretical:	0 hours/week
		Practical:	4 hours /week
General Objectives			
1. To integrate and apply the learning outcomes from the programme to the later stages of a sustained project.			

Theoretical Content				Practical Content		
Week/s	Specific Learning Outcomes	Teacher's activities	Resources	Specific Learning Outcomes	Teacher's activities	Resources
General Objective 1: Work in a team to integrate and apply the learning outcomes from the programme to the later stages of a sustained project.						
1-14				<p>Able to:</p> <p>Implement a client-based project in a professional manner.</p> <p>Use appropriate techniques to plan the implementation of a sustained project requiring the allocation and management of multiple resources.</p>	Provide a minimum of four hours supervision each week.	<p>Requirements Document for a client-based project. Signed-off by the client.</p> <p>Project management software.</p>
15				<p>Able to:</p> <p>Make a formal presentation of a final product to clients.</p> <p>Obtain client acceptance of the implementation.</p> <p>Justify their decisions, assess the results and learn from reflecting on the process in a written report.</p>	Observe presentation and viva students.	Presentation software and projector.

Assessment: Give details of assignments to be used: Project Plan: 20% %; Projects 80 %

Recommended Textbooks & References:

Course: Small Business Management I

Programme: Statistics (National Diploma)			
Course: Small Business Management I	Course Code: STA 226	Total Hours:	3
Year: 2 Semester: 4	Pre-requisite:	Theoretical:	2 hour /week
		Practical:	1 hour /week
<p>Goal: This course is designed to provide the student with the basic knowledge on the various tools used in the management of small-scale businesses.</p> <p>General Objectives: On completion of this course, the diplomate will be able to:</p> <ol style="list-style-type: none"> 1. Understand the nature of small-scale enterprises. 2. Understand the legal framework for small-scale enterprises. 3. Understand the role of governments in small-scale enterprises in Nigeria 4. Understand a business plan for a small-scale business enterprise. 5. Understand marketing management in a small business enterprise 6. Understand the general concept of production management 7. Know human capital needs for an enterprise 			

Theoretical Content				Practical Content		
Week	Specific Learning Outcomes	Teacher's activities	Resources	Specific Learning Outcomes	Teacher's activities	Resources
General Objective 1 (STA 226): Understand the nature of small-scale enterprises.						
1	1.1 Define the range and scope of a small business. 1.2 Explain the importance of a small business. 1.3 Describe the problems associated with small business operations.	Explain range, scope and importance of a small scale business. Explain problems associated with small business operations.	Text Books Journals Publications	Select a small business enterprise and indicate its signs of success and failures. Use case studies based on a local organisation.	Guide students in identifying range, scope and importance of a small scale business.	Internet and relevant websites Guest speaker on small businesses
2	1.4 Describe types of businesses that could be run on a small scale. 1.5 Describe the merits and demerits of being self-employed. 1.6 Identify the starting problems and signs of failure of a small business	Explain types of businesses that could be run on small scale, their associated problems and signs of failure during operations. Explain wage employment and self employment. Explain the merits and demerits of self employment.	Text Books Journals Publications	Select a small business enterprise and indicate its signs of success and failures. Use case studies based on a local organisation.	Guide students in identifying types of businesses that could be run on small scale, their associated problems and signs of failure during operations.	Internet and relevant websites Guest speaker on small businesses
General Objective 2 (STA 226): Understand the legal framework for small-scale enterprises.						
3	2.1 Explain the types of business organization. 2.2 Identify the legal form of business.	Explain the types of business organization Explain legal formation and regulatory status of small business. Explain environmental factors of business.	Text Books Journals Publications	Use CAMB to explain the regulatory frame work of small business. Group work to set up a small business - realistic scenarios Use of relevant documentation taken from the internet.	Guide students to identify the legal formation and regulatory status of small business.	Internet and relevant websites

Theoretical Content				Practical Content		
Week	Specific Learning Outcomes	Teacher's activities	Resources	Specific Learning Outcomes	Teacher's activities	Resources
4	<p>2.3 Describe the environmental factors of business - law of sales, licenses, failure signs, etc.</p> <p>2.4 Explain regulatory status and formation of small business.</p>	<p>Explain legal formation and regulatory status of small business.</p> <p>Explain environmental factors of business.</p>	<p>Text Books</p> <p>Journals</p> <p>Publications</p>	<p>Use CAMB to explain the regulatory frame work of small business.</p> <p>Group work to set up a small business - realistic scenarios</p> <p>Use of relevant documentation taken from the internet.</p>	<p>Guide students to identify the environmental factors of business.</p>	<p>Internet and relevant websites</p>
General Objective 3 (STA 226): Understand the role of governments in small-scale enterprises in Nigeria						
5	<p>3.1 Explain government policies for small enterprises development.</p> <p>3.2 Explain the effects of government policies on direct and indirect assistance to small businesses</p>	<p>Explain government policies for small enterprises development and effects of the policies on direct and indirect assistance to these enterprises.</p>	<p>Text Books</p> <p>Journals</p> <p>Publications</p>	<p>Identify government policies and their effects on small scale business.</p>	<p>Guide students to evaluate the contributions of the promoting bodies (IDC, NASA, NERFUND, NDE, NAPEP etc to growth of small business in Nigeria.</p>	<p>Internet and relevant websites</p>
6	<p>3.3 State the role of the following institutions in promoting small enterprises</p> <p>(a) Industrial Development Centre (IDC)</p> <p>(b) State Ministries of Commerce and Industries.</p> <p>(c) State Export Promotion Committees.</p> <p>(d) Centre for Management Development (CMD)</p> <p>(e) National Directorate of Employment (NDE)</p> <p>(f) NAPPEP</p> <p>(g) CIRD</p> <p>(h) NERFUND</p> <p>(i) NACRDB, NEPC</p> <p>(j) NASSI, NASME, etc</p>	<p>Explain the following institutions and their roles in promoting small scale enterprises.</p> <p>- IDC, State Ministries of Commerce,</p> <p>State Export Promotion Committees,</p> <p>CMD, NDE, NAPPEP, CIRD</p> <p>NERFUND</p> <p>NACRDB, NEPC</p> <p>NASSI, NASME, etc</p>	<p>Text Books</p> <p>Journals</p> <p>Publications</p>	<p>Identify and explain beneficiaries of the bodies. Promotion SME in Nigeria.</p>	<p>Guide students to evaluate the contributions of the promoting bodies (IDC, NASA, NERFUND, NDE, NAPEP etc to growth of small business in Nigeria.</p>	<p>Internet and relevant websites</p>

Theoretical Content				Practical Content		
Week	Specific Learning Outcomes	Teacher's activities	Resources	Specific Learning Outcomes	Teacher's activities	Resources
General Objective 4 (STA 226): Understand a business plan for a small-scale business enterprise.						
7	4.1 Explain business plan. 4.2 Explain the purpose of business plan 4.3 Identify the components of a business plan from project development up to project cost.	Explain business Plan, its purpose and components from project development to project cost.	Text Books Journals Publications	Identify business plan. Identify how to plan in small business. Formulate a business plan for a particular project.	Guide students to:- Work in pairs to develop a relevant business plan. Refer to business planning information on the internet Present the plans and justify the goals	Internet and relevant websites
8	4.4 State the necessary steps in carrying out financial analysis and planning for a small business 4.5 Compare personal goal and business goals. 4.6 Identify influences of family goals in business goals	Explain steps in carrying out financial analysis and planning for a small business. Explain personal goals and business goals. Explain influences of family goals in business goals. Invite a successful entrepreneur to give a talk.	Text Books Journals Publications	Identify business plan. Identify how to plan in small business. Formulate a business plan for a particular project.	Guide students to:- Work in pairs to develop a relevant business plan. Refer to business planning information on the internet Present the plans and justify the goals	Internet and relevant websites
General Objective 5 (STA 226): Understand marketing management in a small business enterprise						
9	5.1 Understand the basic concept of marketing. 5.2 Identify the steps in conducting market surveys to determine demand and supply for particular products. 5.3 Identify markets for specific products.	Explain basic concepts of marketing. Explain steps in conducting marketing survey to determine demand and supply for particular products. Explain how to identify markets for specific products.	Text Books Journals Publications	Identify the process of conducting a marketing survey. Identify appropriate training strategies for products produced on a small scale.	Guide students to use the internet to identify the marketing needs of small business enterprises.	Internet and relevant websites

Theoretical Content				Practical Content		
Week	Specific Learning Outcomes	Teacher's activities	Resources	Specific Learning Outcomes	Teacher's activities	Resources
10	5.4 Identify channels of distribution for a selected product or service.	Explain channels of distribution for a selected product or service.	Text Books	Identify the process of conducting a marketing survey.	Guide students to use the internet to identify the marketing needs of small business enterprises.	Internet and relevant websites
	5.5 Explain the promotional and sales activities for a selected product or service	Explain promotional and sales activities for a selected product or service	Journals Publications	Identify appropriate training strategies for products produced on a small scale.		
	5.6 Explain appropriate pricing strategies	Explain appropriate pricing strategies				
General Objective 6 (STA 226): Understand the general concept of production management						
11	6.1 Explain the basic concepts of production	Explain the basic concepts of production	Text Books	Identify appropriate technology for different types of SME.	Guide students to prepare a case study on the location of an industry and factory layout Oversee group work and guide reference to relevant web sites	Internet and relevant websites
	6.2 Explain choice of appropriate technology	Explain choice of appropriate technology	Journals Publications	Identify sources of machinery and material from the internet.		
	6.3 Identify types and sources of machinery and equipment.	Explain types and sources of machinery and equipment, their installed and utilized capacity.	Sample business	Identify appropriate locations and their problems for SMES		
	6.4 Explain the installed capacity.					
	6.5 Explain the utilized capacity.					
12	6.6 Identify sources of raw materials.	Explain sources of raw materials.	Text Books	Identify appropriate technology for different types of SME.	Guide students to prepare a case study on the location of an industry and factory layout Oversee group work and guide reference to relevant web sites	Internet and relevant websites
	6.7 Describe factory location and factors in the selection of site.	Explain factory location, its layout and safety measures. Explain Plant and machinery maintenance.	Journals Publications Sample business	Identify sources of machinery and material from the internet.		
	6.8 Describe factory layout.	Explain plan and scheduling.		Identify appropriate		

Theoretical Content				Practical Content		
Week	Specific Learning Outcomes	Teacher's activities	Resources	Specific Learning Outcomes	Teacher's activities	Resources
	6.9 Explain plant and machinery maintenance. 6.10 Explain Plan and scheduling.			locations and their problems for SMES		
13	6.11 Explain quality control issues. 6.12 Explain factory safety measures. 6.13 Identify problems of production in the Nigerian situation. 6.14 Explain how to cope with production problems in Nigeria.	Explain quality control. Explain problems of production in the Nigerian situation and how to cope with them. Organise a field trip to a successful small business establishment.	Text Books Journals Publications Sample business	Identify appropriate technology for different types of SME. Identify sources of machinery and material from the internet. Identify appropriate locations and their problems for SMES	Guide students to prepare a case study on the location of an industry and factory layout Oversee group work and guide reference to relevant web sites	Internet and relevant websites
General Objective 7 (STA 226): Know human capital needs for an enterprise						
14	7.1 Identify human capital needs for an enterprise. 7.2 Explain recruitment procedures. 7.3 Explain need for training of workers. 7.4 Explain how to motivate workers.	Explain human capital management and its needs for small business enterprises. Explain recruitment procedures	Text Books Journals Publications Cardboard	Identify the recruitment compensation and training procedures of workers in SMES. Identify problems of human capital management and how to solve them in SMEs	Guide students to prepare organizational charts for SME and how to forecast their employment needs.	Internet and relevant websites

Theoretical Content				Practical Content		
Week	Specific Learning Outcomes	Teacher's activities	Resources	Specific Learning Outcomes	Teacher's activities	Resources
15	7.5 Explain how to compensate workers.	Explain need for training of workers.	Text Books	Identify the recruitment compensation and training procedures of workers in SMES.	Guide students to prepare organizational charts for SME and how to forecast their employment needs.	Internet and relevant websites
	7.6 Explain organization of work force, organizational chart.	Explain how to motivate. and compensate workers	Journals Publications			
	7.7 Explain problems of human capital management in small business enterprises.	Explain organization of work force. Guide students to prepare organizational, chart for a small business enterprise.	Cardboard	Identify problems of human capital management and how to solve them in SMEs		
	7.8 Explain how to cope with the problems of human capital management.	Explain problems of human capital management in small business enterprises and how to cope with them.				

Assessment: Give details of assignments to be used: Coursework/ Assignments %; Course test %; Practical %; Project %; Examination %

Type of Assessment	Purpose and Nature of Assessment (STA 226)	Weighting (%)
Examination	Final Examination (written) to assess knowledge and understanding	0
Test	At least 1 progress test for feed back.	25
Practical / Project	Project with group (25%) and individual (50%) components to be assessed by the teacher	75
Total		100

Recommended Textbooks & References: