

8.1.2. COMPUTER APPLICATION I (HOURS 140)

8.1.2.01: INTRODUCTION

This module unit is designed to equip the trainee with knowledge, skills and attitudes that will enable him/her with appreciating computer application.

8.1.2.02: GENERAL OBJECTIVES

By the end of this topic, the trainee should be able to:

- a) understand the basic concept of computer application
- b) appreciate and use word processing application software
- c) use spreadsheet application software
- d) use database application software
- e) appreciate and use desktop publishing
- f) appreciate the application of internet and e-mail facilities
- g) appreciate and use presentation application software

8.1.2.03: COURSE SUMMARY AND TIME ALLOCATION

CODE	TOPIC	SUB-TOPIC	TIME T P	TOTAL
8.1.2.1	INTRODUCTION TO COMPUTER APPLICATION	<ul style="list-style-type: none">• meaning• describe types of software• state application areas	0	2
8.1.2.2	INTRODUCTION TO OPERATING SYSTEM ENVIRONMENT	<ul style="list-style-type: none">• meaning• characteristics of OS• launching and closing OS• manipulating key board and mouse• feature of graphical and character use interface• identify basic computer information• using various storage media• manipulation of files and features• scanning and cleaning virus• accessory programs	6	10

CODE	TOPIC	SUB-TOPIC	TIME T P	TOTAL
8.1.2.3	WORD PROCESSING	<ul style="list-style-type: none"> Starting word processor Editing and formatting a document opening and editing text manipulation formatting tools creating and formatting a table calculations in tables charts creation mail merge 	1 1	2
8.1.2.4	STYLES, TEMPLATES AND GRAPHICAL EFFECTS	<ul style="list-style-type: none"> styles and templates graphics graphical effects 	0 2	2
8.1.2.5	TABLE OF CONTENT, LIST OF FIGURES AND PRINTING	<ul style="list-style-type: none"> generating tables of content generating list of figures print previews 	0 4	4
8.1.2.6	MACROS EMERGING TRENDS	<ul style="list-style-type: none"> defining macros emerging trends 	2 2	4
8.1.2.7	INTRODUCTION AND STARTING SPREADSHEET APPLICATION	<ul style="list-style-type: none"> definition of spread sheet importance of spread sheets opening and closing screen layout entering, formatting and editing of data 	1 5	6
8.1.2.8	FUNCTIONS, CALCULATIONS AND SPREAD SHEET TOOLS	<ul style="list-style-type: none"> functions linking spreadsheets tools help 	2 4	6
8.1.2.9	MACROS	<ul style="list-style-type: none"> writing a macro program 	0 2	2
8.1.2.10	CHARTS AND PRINTING EMERGING TRENDS	<ul style="list-style-type: none"> charts printing of worksheet and charts emerging trends 	1 5	6
8.1.2.11	INTRODUCTION TO DATABASES	<ul style="list-style-type: none"> definition uses of databases advantages types of databases database creation 	2 0	2

CODE	TOPIC	SUB-TOPIC	TIME T P	TOTAL
8.1.2.12	TABLES	<ul style="list-style-type: none"> • data types • types of keys • table of keys • table creation • entering data • editing tables 	1 5	6
8.1.2.13	RELATIONSHIPS	<ul style="list-style-type: none"> • types of relations • linking tables • sorting and filtering 	1 1	2
8.1.2.14	FORMS	<ul style="list-style-type: none"> • creating forms • entering data in forms • editing and formatting 	2 4	6
8.1.2.15	QUERIES	<ul style="list-style-type: none"> • importance • creating queries • listing and formatting queries • calculated field 	2 3	5
8.1.2.16	REPORTS	<ul style="list-style-type: none"> • importance • creating report • modifying and adding graphs • calculations • headers and footers 	1 5	6
8.1.2.17	PRINTING	<ul style="list-style-type: none"> • printing of various objects 	0 4	4
8.1.2.18	EMERGING TRENDS IN DATABASE APPLICATION	<ul style="list-style-type: none"> • identifying emerging trends • copying with trends 	2 0	2
8.1.2.19	DESKTOP PUBLISH- ING	<ul style="list-style-type: none"> • definitions • characteristics • importance of desktop publishing • types of desktop publishing 	2 0	2
8.1.2.20	DATA MANIPULA- TION	<ul style="list-style-type: none"> • data • text • graphics • creating and inserting tables • indexing tables of contents and data 	0 6	6

CODE	TOPIC	SUB-TOPIC	TIME T P	TOTAL
8.1.2.21	EDITING, FORMATTING AND TRANSFORMATION OF SHAPES	<ul style="list-style-type: none"> • spell checking a document • editing • creating multi-page document • creating and modifying frames • creating and enhancing drawings • aligning ,resizing, coping and pasting objects • adding and assigning objects to layers 	0 8	8
8.1.2.22	IMPORTING AND EXPORTING FILES AND DOCUMENTS	<ul style="list-style-type: none"> • importing files and documents • exporting files and documents • merging file and graphs 	2 6	8
8.1.2.23	PRINTING	<ul style="list-style-type: none"> • printing pictures • printing graphs • printing text 		
8.1.2.24	EMERGING TRENDS IN DESKTOP PUBLISHING	<ul style="list-style-type: none"> • identifying emerging trends 	1 0	1
8.1.2.25	PRESENTATION APPLICATION	<ul style="list-style-type: none"> • definition • types • importance 	1 0	1
8.1.2.26	STARTING	<ul style="list-style-type: none"> • opening and closing presentation • screen layout • opening and closing an existing document 	0 2	2
8.1.2.27	CREATING PRESENTATIONS AND SLIDES	<ul style="list-style-type: none"> • create presentation and slides • change slide layout, add and remove a slide • change the order of slides in a presentation • save presentation and slides 	2 2	4

CODE	TOPIC	SUB-TOPIC	TIME T P	TOTAL
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8.1.2.28	EDITING AND FORMATTING SLIDE PRESENTATIONS	<ul style="list-style-type: none"> • editing slides • formatting and resizing slides • adding, footer, header, date, time and page numbers to slides 	1	3	4
8.1.2.29	CREATING TEMPLATES	<ul style="list-style-type: none"> • definition • using template • creating your own master slide template • colour schemes 	2	4	6
8.1.2.30	INSERTING OBJECTS	<ul style="list-style-type: none"> • insert clip arts and objects • modifying clip arts and objects 	2	2	4
8.1.2.31	SLIDE SHOW AND PRINTING	<ul style="list-style-type: none"> • customize slide • slide transition • slide timing • slide presentation • slide printing 	1	3	4
8.1.2.32	EMERGING TRENDS IN PRESENTATION	trends • identification of emerging	1	0	1
8.1.2.33	INTERNET AND E-MAIL APPLICATION	<ul style="list-style-type: none"> • definition • concepts • historical background • uses and importance • opening an e-mail account • sending and receiving mails • managing e-mail messages • surfing the internet 	3	3	6
8.1.2.34	EMERGING TRENDS IN INTERNET	• identifying emerging trends	1	0	1
TOTAL			140 HRS		

8.1.2.1T INTRODUCTION TO COMPUTER APPLICATIONS

THEORY

8.1.2.1.T0 Specific Objectives

By the end of this topic, the trainee should be able to:

- meaning of computer application
- explain software concepts
- describe types of software
- state application areas of various software

CONTENT

- 8.1.2.1.T1** Meaning of computer application
- 8.1.2.1.T2** Describing different types of software software concepts software types
- system software operating system system utilities application software
 - packages
 - in-house
- 8.1.2.1.T3** Stating the application of computers computer as a tool computer application areas

8.1.2.2T INTRODUCTION TO ENVIRONMENT

THEORY

8.1.2.2.T0 Specific Objectives

By the end of this topic, the trainee should be able to:

- a) meaning of operating systems
- b) explain the functions of operating system
- c) describe the types of operating system
- d) demonstrate skills in the use of operating system commands

CONTENT

- 8.1.2.2.T1** Definition of operating system
- 8.1.2.2.T2** Stating the functions of an operating system
- 8.1.2.2.T3** Descriptions of the types of operating system
- 8.1.2.2.T4** Demonstration of skills in the use of operating systems command internal commands external commands performance optimization commands

PRACTICE

9.1.2.2.P0 Specific Objectives

By the end of this topic, the trainee should be able to:

- a) use of operating system commands

CONTENT

8.1.2.2.P1 Using operating commands internal
commands external commands
performance optimization commands

8.1.2.3T WORD PROCESSING

THEORY

8.1.2.3.T0 Specific Objectives

By the end of this topic, the trainee should be able to:

- a) define word processors
- b) understand word processing concepts
- c) explain the features of a word processors

CONTENT

8.1.2.3.T1 Definition of word processing

8.1.2.3.T2 Understanding of word processing concepts
creation of a document printing of a
document independence of the operations
of creation printing

8.1.2.3.T3 Explanation of the features of word processors
cursor movement

- keys
- mouse
- editing keys
- return/enter
- deletion
- insertion document format keys
- space
- tab
- moving and copying text within a document

PRACTICE

9.1.2.3.P0 Specific Objectives

By the end of this topic, the trainee should be able to:

- a) explain skills in document formatting
- b) explain skills in document printing
- c) explain skills in mail merging
- d) explain skills in table creating and line drawing
- e) explain skills in the use of templates

- f) develop multiple column formats
- g) explain skills in the use of word processing utilities
- h) explain skills in the use of graphs, formulae and functions
- i) explain skills in the used of macros
- j) outline skills in the use of advanced word processing facilities

CONTENT

- 8.1.2.3.P1** Skills in document formatting
- page format
 - margins
 - headers and footer
 - alignment
 - orientation
 - indenting text
 - formatting text styles
 - underline
 - bold
 - italics
 - typeface and size
 - typeface (fonts)
 - font size
- 8.1.2.3.P2** Skills in document printing
- single or multiple copy full or part of document
 - orientation
 - landscape
 - portrait printer selection

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- 8.1.2.3.P3** Skills in mail merging data source
document creating main
document merging
- 8.1.2.3.P4** Skills in table creation and line drawing
- 8.1.2.3.P5** Skills in table creation and line
drawing tables line draw
- 8.1.2.3.P6** Skills in use of templates
- 8.1.2.3.P7** Multiple column formats
newspaper columns parallel
columns
- 8.1.2.3.P8** Skills in use of word processing utilities
sorting selection
spell checking
thesaurus
bookmarks
grammar checkers
- 8.1.2.3.P9** Skills in use of object formulae and
equations objects formulae functions
special symbols
- 8.1.2.3.P10** Skills in the use of macros
- 8.1.2.3.P11** Skills in the use of advanced work processing
features table of contents table of figures
indexes electronic mail

8.1.2.4T SPREADSHEET

THEORY

8.1.2.4.T0 Specific Objectives

By the end of this topic, the trainee should be able to:

- a) define a spreadsheet
- b) state the concepts of spreadsheet

CONTENT

8.1.2.4.T1 Definition of a spreadsheet

8.1.2.4.T2 Stating the concepts of
spreadsheets traditional analysis
sheet concepts of the spreadsheets

- automatic calculations
- “What if” analysis

- graphical analysis

PRACTICE

9.1.2.4.P0 Specific Objectives

By the end of this topic the trainee should be able to:

- explain the worksheet formatting
- explain cell data types
- explain the worksheet layout
- use formulae and functions
- explain charting
- describe skills in simple database management
- describe worksheet and chart printing
- explain the use of utilities
- explain the use of macros

CONTENT

8.1.2.4.P1

Explanation of the worksheet layout
columns rows cells single cell
referencing range of cell referencing
referencing using labels absolute and
relative cell referencing

8.1.2.4.P2

Worksheet
formatting fonts
alignments
column width and row height
boarders enhancing data
appearance page formatting

8.1.2.4.P3

Explanation of cell data types
labels values formulae

8.1.2.4.P4

Using formulae and functions
formulae functions

8.1.2.4.P5

Explaining charting
data ranges
chart/graph types
graph headings
additional facilities

- column

- 2D/3D graphs
- page layout
- gridlines synchronization

8.1.2.4.P6 Explaining skills in simple database management
 worksheet database
 data forms linking
 worksheet linking
 query/extraction

8.1.2.4.P7 Printing of worksheets and charts

8.1.2.4.P8 Using utilities
 sorting spell
 checking fi
 ltering

8.1.2.4.P9 Explaining the use of macros
 defi nition recording storing
 key strokes editing and
 debugging printing/laying
 back macros advanced macro
 command macro libraries

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8.1.2.5T DATABASE

THEORY

8.1.2.5.T0 Specific Objectives

By the end of this topic, the trainee should be able to:

- a) defi ne database
- b) explain the concepts of a database structure

CONTENT

8.1.2.5.T1 Defi nition of database

8.1.2.5.T2 Explanation of the database
 concepts traditional fi ling
 methods functions of databases
 types of databases models
 database procedure

PRACTICE

9.1.2.5.P0 Specific Objectives

By the end of this topic, the trainee should be able to:

- a) define the design of a database structure
- b) create a database
- c) describe retrieving and editing facilities
- d) explain sorting and indexing
- e) explain logic and arithmetic functions
- f) explain querying
- g) explain reporting and labeling
- h) describe screen/view formatting
- i) explain linking of databases
- j) explain macros

CONTENT

- 8.1.2.5.P1** Description of the database structure
field name field types field width table
- 8.1.2.5.P2** Creating a database
data entry saving
- 8.1.2.5.P3** Description of retrieval and editing facilities
retrieving
- loading
 - browsing
 - listing
 - displaying editing
 - appending
 - insertion
 - deletion
 - recalling
 - altering databases structure
- 8.1.2.5.P4** Explanation of sorting and indexing
sorting
- ascending order
 - descending order
 - selective sorting indexing
 - single field
 - selective indexing

- levels of indexing

8.1.2.5.P5 Explanation of logic and arithmetic functions

8.1.2.5.P6 Explanation of querying
single field conditions
multiple field conditions
logical operators
- AND - OR
- NOT

8.1.2.5.P7 Explanation of reporting and labeling

8.1.2.5.P8 Description of screen/view formatting layout
- labels
- fields purpose help

8.1.2.5.P9 Explanation of linking of databases
tables of same databases table
of different databases

8.1.2.5.P10

Explanation database management
standards database design
data security data integrity
co-ordination quality control
tuning and performance

8.1.2.5.P11

Explanation of macros
creating macros
saving macros using
macros

8.1.2.6T **DESKTOP PUBLISHING**

THEORY

8.1.2.6.T0 **Specific Objectives**

By the end of this topic, the trainee should be able to:

- a) define desktop publishing
- b) explain the concepts of desktop publishing

CONTENT

- 8.1.2.6.T1** Definition of desk top publishing
- 8.1.2.6.T2** Explanation of the concepts of desk top publishing

PRACTICE

9.1.2.6.P0 Specific Objectives

By the end of this topic, the trainee should be able to:

- a) explain pay layout
- b) explain text manipulation
- c) describe arts and graphics
- d) describe presentation templates
- e) explain object linking and embedding
- f) explain document and publishing

CONTENT

- 8.1.2.6.P1** Explanation of page layout margins paper size page formatting
- 8.1.2.6.P2** Explanation of text manipulation
- 8.1.2.6.P3** Description of arts and graphics
- 8.1.2.6.P4** Description of presentation templates
- 8.1.2.6.P5** Explanation of object linking and embedding
- 8.1.2.6.P6** Explanation of documents and publications

8.1.2.7T FINANCIAL APPLICATIONS

THEORY

8.1.2.7.T0 Specific Objectives

By the end of this topic, the trainee should be able to

- a) explain the fundamentals of accounting
- b) explain the fundamentals of the payroll
- c) explain the fundamentals of stock control and inventory
- d) explain the fundamentals of purchasing and marketing

CONTENT

- 8.1.2.7.T1** Explanation of the fundamental of accounting
definitions of accounting and bookkeeping
ledgers financial statement invoicing
- 8.1.2.7.T2** Explanation of fundamentals of payroll
personnel payroll data

- earnings
- mandatory deductions
- other deductions
- job description and specifications organizational income

8.1.2.7.T3 Explanation of the fundamentals of stock control and inventory receipt of issue receipt of supply stock reports ordering

8.1.2.7.T4 Explanation of the fundamentals of purchasing and marketing

8.1.2.7.T5 Explanation of the fundamentals of banking and insurance banking

- definition
- current account
- interest and deposit accounts
- loan and overdrafts
- cash transfers

Insurance

- definition
- types
- customer accounts and records claims
- actuarial principles

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8.1.2.8T COMPUTER AIDED DRAWING

THEORY

8.1.2.8.T0 Specific Objectives

By the end of this topic, the trainee should be able to:

- a) define computer aided drawing (CAD)
- b) explain CAD concepts
- c) explain the fundamentals of technical drawing
- d) explain the basics of computer graphics
- e) explain the fundamentals of computer charting

CONTENT

8.1.2.8.T1 Definition of computer aided drawing (CAD)
CAD system configuration
CAD input/output devices CAD facilities

8.1.2.8.T2 Explanation of CAD concepts

- 8.1.2.8.T3** Fundamentals of technical drawing
types of lines and lettering
techniques of dimensioning plan
geometry figures orthographic and
pictorial drawing
- orthographic views of assembled drawing
 - assembly of exploded views
 - isometric drawings of objects with inclined sides, curves, circles
- 8.1.2.8.T4** Explanation of the basics of computer graphics
- 8.1.2.8.T5** Explanation of the fundamental of computer charting

8.1.2.9T APPLICATION AREAS

THEORY

8.1.2.9.T0 Specific Objectives

By the end of this topic, the trainee should be able to:

- a) describe retail systems
- b) describe financial systems
- c) describe industrial systems
- d) describe scientific and research system
- e) describe transportation systems
- f) describe communication systems
- g) describe educational systems
- h) describe entertainment systems
- i) describe mathematical systems
- j) describe computer aided engineering
- k) describe operations management
- l) describe hotel systems
- m) describe other application areas

CONTENT

- 8.1.2.9.T1** Description of retail systems
- 8.1.2.9.T2** Description of financial systems
- 8.1.2.9.T3** Description of industrial systems
simulation process control
CAM
- 8.1.2.9.T4** Description of scientific and research systems
- 8.1.2.9.T5** Description of communication
systems routing scheduling fleet

size and composition air
reservation

8.1.2.9.T6 Description of communication systems

8.1.2.9.T7 Description of educational systems

computer aided learning (CAL) computer
aided instruction (CAI) computer
managed learning (CML) education
management

- registration
- examination
- stores
- libraries
- time tabling

8.1.2.9.T8 Description of entertainment systems

8.1.2.9.T9 Description of mathematical systems

8.1.2.9.T10 Description of computer aided engineering

8.1.2.9.T11 Description of operations management
maintenance repair

8.1.2.9.T12 Description of hotel systems

8.1.2.9.T13 Description of other application areas

8.1.2.10T APPLICATION TRENDS

THEORY

8.1.10.T0 Specific Objectives

By the end of this topic, the trainee should be able to: explain internet technology explain multimedia technology explain artificial intelligence explain virtual reality explain office automation explain work groups explain parallel processing explain other future trends

CONTENT

8.1.2.10.T1 Explanation of Internet technology

8.1.2.10.T2 Explanation of multimedia technology

- 8.1.2.10.T3** Explanation of artificial intelligence
 meaning of artificial intelligence AI
 application area advantages and
 disadvantages of AI
- 8.1.2.10.T4** Explanation of virtual reality
- 8.1.2.10.T5** Explanation of office automation
- 8.1.2.10.T6** Explanation of work groups
- 8.1.2.10.T7** Explanation of parallel processing
- 8.1.2.10.T8** Description of future trends
 hardware software
 application
 - system software
 - programming ergonomics

TEACHING/LEARNING RESOURCES

Computer

Relevant application software

- Microsoft word, Open Office, Word Perfect ...
- Microsoft Excel, Open Office, Lotus 123...
- Microsoft Access, oracle DBMS...
- Microsoft Publisher, Pagemaker, Adobe InDesign...
- Microsoft Powerpoint, ...

Whiteboard

Printers and Printing papers

Relevant text books and free e-books

Online content (www.howstuffworks.com, www.wikipedia.com...)

ASSESSMENT MODE

Written Tests

Practical tests

Projects