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	• meaning • describe types of software • state application areas	2	0	2
8.1.2.2	INTRODUCTION TO OPERATING SYSTEM ENVIRONMENT	• 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	4	6	10

CODE	TOPIC	SUB-TOPIC	TIME T	P	TOTAL
8.1.2.3	WORD PROCESSING	• 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, TEM-PLATES AND GRAPHICAL EF-FECTS	• styles and templates • graphics • graphical effects	0	2	2
8.1.2.5	TABLE OF CON-TENT, LIST OF FIG-URES AND PRINT-ING	• generating tables of content • generating list of figures • print previews	0	4	4
8.1.2.6	MACROS EMERG-ING TRENDS	• printing macros • emerging trends	2	2	4
8.1.2.7	INTRODUCTION AND STARTING SPREADSHEET AP-PLICATION	• 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, CAL-CULATIONS AND SPREAD SHEET TOOLS	• functions • linking spreadsheets • tools • help	2	4	6
8.1.2.9	MACROS	• writing a macro program	0	2	2
8.1.2.10	CHARTS AND PRINTING EMERGING TRENDS	• charts • printing of worksheet and charts • emerging trends	1	5	6
8.1.2.11	INTRODUCTION TO DATABASES	• definition • uses of databases • advantages • types of databases • database creation	2	0	2

CODE	TOPIC	SUB-TOPIC	TIME		TOTAL
			T	P	
8.1.2.12	TABLES	• data types • types of keys • table of keys • table creation • entering data • editing tables	1	5	6
8.1.2.13	RELATIONSHIPS	• types of relations • linking tables • sorting and filtering	1	1	2
8.1.2.14	FORMS	• creating forms • entering data in forms • editing and formatting	2	4	6
8.1.2.15	QUERIES	• importance • creating queries • listing and formatting queries • calculated field	2	3	5
8.1.2.16	REPORTS	• importance • creating report • modifying and adding graphs • calculations • headers and footers	1	5	6
8.1.2.17	PRINTING	• printing of various objects	0	4	4
8.1.2.18	EMERGING TRENDS IN DATABASE AP-PLICATION	• identifying emerging trends • copying with trends	2	0	2
8.1.2.19	DESKTOP PUBLISH-ING	• definitions • characteristics • importance of desktop publishing • types of desktop publishing	2	0	2
8.1.2.20	DATA MANIPULA-TION	• 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	• 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	• importing files and documents • exporting files and documents • merging file and graphs	2	6	8
8.1.2.23	PRINTING	• printing pictures • printing graphs • printing text			
8.1.2.24	EMERGING TRENDS IN DESKTOP PUBLISHING	• identifying emerging trends	1	0	1
8.1.2.25	PRESENTATION APPLICATION	• definition • types • importance	1	0	1
8.1.2.26	STARTING	• opening and closing presentation • screen layout • opening and closing an existing document	0	2	2
8.1.2.27	CREATING PRESENTATIONS AND SLIDES	• create presentation and slide s • 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
8.1.2.28	EDITING AND FORMATTING SLIDE PRESENTATIONS	• 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	• definition • using template • creating your own master slide template • colour schemes	2	4	6
8.1.2.30	INSERTING OBJECTS	• insert clips arts and objects • modifying clip arts and objects	2	2	4
8.1.2.31	SLIDE SHOW AND PRINTING	• customize slide • slide transition • slide timing • slide presentation • slide printing	1	3	4
8.1.2.32	EMERGING TRENDS IN PRESENTATION	• identification of emerging trends	1	0	1
8.1.2.33	INTERNET AND E-MAIL APPLICATION	• 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:
a) meaning of computer application
b) explain software concepts
c) describe types of software
d) 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

test 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

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**

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:

a)   explain the worksheet formatting

b)   explain cell data types

c)   explain the worksheet layout

d)   use formulae and functions

e)   explain charting

f)   describe skills in simple database management

g)   describe worksheet and chart printing

h)   explain the use of utilities

i)   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

filtering

8.1.2.4.P9   Explaining the use of macros

definition

recording storing key strokes

editing and debugging

printing/laying back macros

advanced macro command

macro libraries

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)   define database

b)   explain the concepts of a database structure

CONTENT

8.1.2.5.T1   Definition of database

8.1.2.5.T2   Explanation of the database concepts

traditional filing 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
- custom account
- interest and deposit accounts
- loan and overdrafts
- cash transfers

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

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/out 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