

An Autonomous Institution Registered Under Planning Commission-Trust & Societies Act. NCT New Delhi RJ 2013/00056856, Section 60 (B) 4 VOL 2901/1878 Act,1882 & ROS/North/091/2010 Act,1860 Ministry of HRD (Department of Higher Education) Courses Registered Under CR Act

Government of India

Appreciatated by

President | Prime Minister | Vice-President FMO MHA MHRD MCIT MSME MSJE MCA MMA CM Governer



COURSE CODE: CP-012

COURSE CONTENT & SYLLABUS

H.O.: 3-KHA-4, Sector 3, Vigyan Nagar, Kota-324005, (Rajasthan) India Tel.: 0744-2412009 Fax: 0744-2411150 Mob. +91 94629 67201

visit us : www.navodayaindia.in | www.ncsm.in | E-mail : contact@ncsm.in, info@ncsm.in



























COURSE CONTENTS

COURSE CODE - CP-012 ELIGIBILITY: 12TH CLASS & ABOVE

DURATION: 6 MONTH

MODULE - 1 MODULE SUBJECT

INFORMATION TECHNOLOGY SUBJECT CODE - NFC

COMPUTER FUNDAMENTALS FUNDAMENTAL OF COMPUTER

OPERATING SYSTEM (WINDOWS XP/W7)

MICROSOFT OFFICE (WORD/ EXCEL/POWER POINT)

MS ACCESS WITH DATA BASE DESIGNING

INTERNET & E-MAIL

HARDWARE & SOFTWARE INSTALLATION

INTRODUCTION OF NETWORKING

TYPES OF NETWORKING

USES OF NETWORKING IN COMPUTER Programming

MODULE - 2 MODULE
C LANGUAGE SUBJECT CO

FUNDAMENTAL OF C LANGUAGE

OPERATORS

DECISION MAKING STATEMENT

LOOPING STATEMENT

THE STATEMENT

AN ARRAY

FUNCTION

CHARACTER STRING

POINTER

STRUCTURES

MODULE - 3

C++ LANGUAGE

FUNDAMENTAL OF OBJECT ORIENTED PROGRAMMING

MODULE SUBJECT
SUBJECT CODE - NCL
C LANGUAGE

MODULE SUBJECT
SUBJECT CODE - NCL2

C++ LANGUAGE

PROGRAMMING IN C++

DATA TYPES, VARIABLE, CONSTANT

ARRAY

USER DEFINED FUNCTIONS

MATHEMATICAL & OTHER FUNCTIONS

CLASSES & OBJECTS

CONSTRUCTOR & DESTRUCTOR

POLYMORPHISM

OPERATOR OVERLOADING

INHERITANCE

FILE HANDLING

DIPLOMA IN COMPUTER PROGRAMMING





COURSE SYLLABUS

Module -1

INTRODUCTION OF COMPUTER

A. FUNDAMENTAL OF COMPUTER

- A-1 HISTORY OF COMPUTER
- A-2 DEVELOPMENT OF COMPUTER
- A-3 Types of computer
- A-4 INPUT & DUTPUT DEVICE
- A-5 MEMORY
- A-6 PERSONAL COMPUTER

B. OPERATING SYSTEM

- B-1 INTRODUCTION OF WINDOWS XP, 2007, 2008
- B-2 FUNCTION OF OPERATING SYSTEM
- B-3 Types of operating system
- B-4 USER INTERFACE (E.G.:-TASKBAR, ICON, START MENU)

C. DESIGN TOOLS & PROGRAMMING LANGUAGE

- C-1 INTRODUCTION OF DESIGN TOOLS
- C-2 INTRODUCTION OF FLOW CHART
- C-3 INTRODUCTION OF PROGRAMMING LANGUAGE

D. MS WORD 2007

D-1 INTRODUCTION OF WORD PROCESSING

- D-1.1 STEPS OF WORD PROCESSING
- D-1.2 OPENING WORD PROCESSING PACKAGES
- D-1.3 MENU BAR
- D-1.4 USING SHORTCUT
- D-1.5 USING BUTTONS/TOOLS

D-2 OPENING, CLOSING & PRINTING DOCUMENTS

- D-2.1 OPENING DOCUMENTS
- D-2.2 SAVE & SAVE AS
- D-2.3 PAGE SET-UP
- D-2.4 PRINTING & PREVIEW

D-3 DOCUMENT CREATION & MANIPULATION

- D-3.1 DOCUMENT CREATION
- D-3.2 EDITING TEXT

- D-3.3 TEXT SELECTION
- D-3.4 CUT, COPY, PASTE
- D-3.5 TEXT AND PARAGRAPH DELETION

D-4 TEXTS FORMATTING

- D-4.1 TEXT FONT & SIZE CHANGE
- D-4.2 ALIGNMENT OF TEXT
- D-4.3 CASES CHANGING
- D-4.4 ALIGNMENT OF PARAGRAPH
- D-4.5 SPACING & COLORING OF PARAGRAPH
- D-4.6 BULLETS & INDENTATION

D-5 UPADATION OF PAGE LAYOUT

- D-5.1 CHANGE OF ORIENTATION OF PAGE
- D-5.2 CHANGE OF SIZE OF PAGE
- D-5.3 CREATIONS OF COLUMNS
- D-5.4 IMPLEMENT WATERMARKS, PAGE COLOR AND BORDERS

D-6 VIEW & REVIEW DOCUMENT

- D-6.1 CHANGE IN LAYOUT
- D-6.2 SHOW/HIDE RULERS & GRIDS
- D-6.3 IMPLEMENT ZOOM VIEW
- D-6.4 REVIEW OF DOCUMENT SUCH AS CHECKING SPELLING & GRAMMAR
- D-6.5 IMPLEMENT THE ASURUES, COMMENT

D-7 MAILING DOCUMENT

- D-7.1 MAIL MERGE PROCESS
- D-7.2 PRINTING & SENDING OF MAILS
- D-7.3 CREATION OF ENVELOPS, LETTERS & LABELS

D-8 TABLE MANIPULATION

- D-8.1 DRAW TABLE
- D-8.2 CHANGING CELL WIDTH & HEIGHT
- D-8.3 ALIGNMENT OF TEXT IN CELL
- D-8.4 DELETION/INSERTION OF ROW & COLUMN
- D-8.5 BORDER & SHADING

E. MS POWERPOINT 2007

E-1 INTRODUCTION OF PRESENTATION

- E-1.1 OPENING PRESENTATION
- E-1.2 SAVING PRESENTATION
- E-1.3 PRINTING PRESENTATION

E-2 CREATION OF PRESENTATION

- E-2.1 CREATING A PRESENTATION USING A TEMPLATE
- E-2.2 CREATING A BLANK PRESENTATION
- E-2.3 ENTERING & EDITING TEXT
- E-2.4 INSERTING & DELETING SLIDES IN A PRESENTATION

E-3 PREPARATIONS OF SLIDES

E-3.1 ADDING PICTURE, CLIPART, SHAPES

- E-3.2 INSERT TABLE, CHART, SMART ART, WORD ART
- E-3.3 INSERTING OTHER OBJECTS

E-4 FORMATION OF PRESENTATION

- E-4.1 WORKING WITH COLOR & TEXTURES
- E-4.2 CHANGE FONT & SIZE OF TEXT
- E-4.3 CHANGE ALIGNMENT
- E-4.4 IMPLEMENT BULLETS, NUMBERING & INDENTATION
- E-4.5 SPACING & CASE CHANGE

E-5 VIEW & REVIEW OF PRESENTATION

- E-5.1 IMPLEMENTATION OF LAYOUT
- E-5.2 SHOW & HIDE RULERS & GRIDLINES
- E-5.3 REVIEW OF PRESENTATION SUCH AS SPELLING CHECK & GRAMMAR
- E-5.4 IMPLEMENT THESAURUSES AND COMMENT

E-6 DESIGNING & ANIMATION OF PRESENTATION

- E-6.1 IMPLEMENTATION OF ORIENTATION
- E-6.2 IMPLEMENTATION OF THEMES & BACKGROUND
- E-6.3 IMPLEMENTATION OF ANIMATION & SLIDE TRANSITION
- E-6.4 IMPLEMENTATION OF MOVIE & SOUND

E-7 SLIDE SHOWS

- E-7.1 RUNNING A SLIDE SHOW
- E-7.2 TRANSITION & SLIDE TIMING
- E-7.3 AUTOMATING A SLIDE SHOW

F. MS EXCEL 2007

F-1 INTRODUCTION OF MS EXCEL PROGRAMM

- F-1.1 CREATION OF WORKBOOK
- F-1.2 OPENING OF SPREADSHEET
- F-1.3 SAVING OF SPREADSHEET
- F-1.4 PRINTING OF SPREADSHEET

F-2 MANIPULATIONS OF CELLS

- F-2.1 ENTERING TEXTS & DATES
- F-2.2 EDITING WORKSHEET DATA
- F-2.3 INSERTING & DELETING ROW, COLUMN & SHEETS
- F-2.4 CHANGING CELL HEIGHT & WIDTH
- F-2.5 FORMATTING OF ROW, COLUMN & SHEETS
- F-2.6 IMPLEMENTING SORTING & FILTERING

F-3 FUNCTION & CHARTS

- F-3.1 USING FORMULAE'S
- F-3.2 USING FUNCTION
- F-3.3 USING CHART

F-4 VIEW & REVIEW OF WORKSHEET

- F-4.1 APPLYING DIFFERENT LAYOUTS OF WORKSHEET
- F-4.2 SHOW/HIDE RULER, GRIDLINES, HEADING
- F-4.3 VERIFY SPELLING & GRAMMAR

F-4.4 IMPLEMENT THESAURUS & COMMENTS

G. MS ACCESS 2007

G-1 INTRODUCTION OF MS ACCESS

- G-1.1 INTRODUCTION OF DATABASE
- G-1.2 INTRODUCTION PRIMARY KEY
- G-1.3 INTRODUCTION OF RELATIONSHIP
- G-1.4 CREATION OF DATABASE
- G-1.5 OPENING & SAVING OF DATABASE
- G-1.6 SAVING & PRINTING OF DATABASE

G-2 INTRODUCTION OF TABLE

- G-2.1 INTRODUCTION OF TABLE
- G-2.2 INTRODUCTIONS OF DATA TYPES
- G-2.3 INTRODUCTION OF TYPES OF DATA TYPES
- G-2.4 CREATION OF TABLE
- G-2.5 OPENING & SAVING OF TABLE
- G-2.6 SAVING & PRINTING OF TABLE

G-3 INTRODUCTION OF QUERY

- G-3.1 INTRODUCTION OF QUERY
- G-3.2 CREATION OF QUERY
- G-3.3 OPENING & SAVING OF QUERY
- G-3.4 SAVING & PRINTING OF QUERY
- G-3.5 FORMATTING OF QUERY

G-4 INTRODUCTION OF FORM

- G-4.1 INTRODUCTION OF FORM
- 6-4.2 CREATION OF FORM UTER Programn
- G-4.3 OPENING & SAVING OF FORM
- G-4.4 SAVING & PRINTING OF FORM
- G-4.5 FORMATTING OF FORM

G-5 INTRODUCTION OF REPORT

- G-5.1 INTRODUCTION OF REPORT
- G-5.2 CREATION OF REPORT
- G-5.3 OPENING & SAVING OF REPORT
- G-5.4 SAVING & PRINTING OF REPORT
- G-5.5 FORMATTING OF REPORT

H. COMMUNICATION

H-1 INTRODUCTION OF COMMUNICATION

- H-1.1 TYPES OF COMMUNICATION
- H-1.2 PROCESS OF COMMUNICATION
- H-1.3 ONLINE & OFFLINE OF COMMUNICATION

H-2 INTRODUCTION OF E-MAIL

- H-2.1 USING OF E-MAIL
- H-2.2 PROCESS OF SENDING & RECEIVING OF E-MAIL

- H-2.3 PROCESS OF ATTACHMENT OF DOCUMENT WITH E-MAIL
- H-2.4 CREATION & LOGIN PROCESS OF E-MAIL ACCOUNT
- H-2.5 DIFFERENT TRANSMISSION MEDIUM

I. NETWORK & INTERNET

I-1 INTRODUCTION OF NETWORK

- I-1.1 TYPES OF NETWORK
- I-1.2 TYPES OF NETWORK TOPOLOGY

I-2 INTRODUCTION OF INTERNET

- I-2.1 BASIC STRUCTURE OF INTERNET ARCHITECTURE
- I-2.2 INTRODUCTION OF INTERNET SERVICE PROVIDER
- I-2.3 INTRODUCTIONS OF INTERNET PROTOCOLS

I-3 SERVICE ON INTERNET

- I-3.1 WORLD WIDE WEB & WEBSITES
- I-3.2 INTERNET SERVICES
- I-3.3 COMMUNICATIONS ON INTERNET

I-4 PREPARING COMPUTER FOR INTERNET ACCESS

- I-4.1 ISP'S SUCH AS DIAL-UP/BROADBAND/WI-FI
- I-4.2 ACCESS TECHNIQUES

I-5 WEB BROWSERS

- I-5.1 INTRODUCTION OF WEB BROWSER
- I-5.2 INTRODUCTION OF POPULAR WEB BROWSING SOFTWARE
- I-5.3 CONFIGURING WEB BROWSER

I-6 SEARCH ENGINE

- I-6.1 INTRODUCTION OF SEARCH ENGINE
- I-6.2 SURFING/ SEARCHING OF CONTENTS
- 1-6.3 DOWNLOADING/UPLOADING Programmi
- I-6.4 PRINTING THE WEBPAGE

Module -2

C LANGUAGE

A. FUNDAMENTAL OF C LANGUAGE

- A-1 HISTORY OF C LANGUAGE
- A-2 FEATURES OF C LANGUAGE
- A-3 BASIC STRUCTURE OF C LANGUAGE
- A-4 PROGRAM DEVELOPMENT OF C LANGUAGE
- A-5 COMPONENTS OF C LANGUAGE
- A-6 C TOKENS
- A-7 TYPES OF DATA TYPES
- A-8 INTRODUCTION OF ESCAPE SEQUENCES
- A-9 INTRODUCTION OF FORMAT SPECIFIERS
- A-10 INTRODUCTION OF STANDARD INPUT & OUTPUT FUNCTION
- A-11EXAMPLES OF C PROGRAM

B. OPERATORS

B-1 INTRODUCTION OF OPERATORS

- **B-2** TYPES OF OPERATORS
- B-3 WORKING WITH ASSIGNMENT OPERATOR
- B-4 WORKING WITH ARITHMATIC OPERATOR
- B-5 WORKING WITH ADDRESS OPERATOR
- B-6 WORKING WITH RELATIONAL OPERATOR
- B-7 WORKING WITH LOGICAL OPERATOR
- B-8 WORKING WITH SIZE OF OPERATOR
- B-9 WORKING WITH CONDITIONAL OPERATOR
- B-10 WORKING WITH INCREMENT/DECREMENT OPERATOR
- B-11 WORKING WITH UNARY MINUS OPERATOR

C. DECISION MAKING STATEMENT

- C-1 INTRODUCTION OF STATEMENT
- C-2 TYPES OF STATEMENT
- C-3 DECISION STATEMENT
 - C-3.1 DECISION STATEMENT WITH IF STATEMENT
 - C-3.II STRUCTURE & SYNTAX OF IF STATEMENT
 - C-3.III CREATION OF PROGRAM WITH IF STATEMENT
- C-4
- C-4.I DECISION STATEMENT WITH IF ELSE STATEMENT
- C-4.II STRUCTURE & SYNTAX OF IF ELSE STATEMENT
- C-4.III CREATION OF PROGRAM WITH IF ELSE STATEMENT
- **C-5**
- C-5.I DECISION STATEMENT WITH NESTED IF ELSE STATEMENT
- C-5.II STRUCTURE & SYNTAX OF NESTED IF ELSE STATEMENT
- C-5.III CREATION OF PROGRAM WITH NESTED IF ELSESTATEMENT
- **C-6**
- C-6.I DECISION STATEMENT WITH ELSE IF LADDER STATEMENT
- C-6.II STRUCTURE & SYNTAX OF ELSE IF LADDER STATEMENT
- C-6.III CREATION OF PROGRAM WITH ELSE IF LADDERSTATEMENT
- C-7
- C-7.I DECISION STATEMENT WITH SWITCH STATEMENT
- C-7.II STRUCTURE & SYNTAX OF SWITCH STATEMENT
- C-7.III CREATION OF PROGRAM WITH SWITCH STATEMENT

D. LOOPING STATEMENT

- D-1 INTRODUCTION OF LOOPING STATEMENT
- D-2 TYPES OF LOOPING STATEMENT
- D-3 WHILE LOOP
 - D-3.I INTRODUCTION OF WHILE LOOP STATEMENT
 - D-3.II STRUCTURE & SYNTAX OF WHILE LOOP STATEMENT
 - D-3.III CREATION OF PROGRAM WITH WHILE LOOP STATEMENT
- D-4 DO WHILE STATEMENT
 - D-4.I INTRODUCTION OF DO WHILE LOOP STATEMENT
 - D-4.II STRUCTURE & SYNTAX OF DO WHILE LOOP STATEMENT
 - D-4.III CREATION OF PROGRAM WITH DO WHILE LOOPSTATEMENT
- D-5 FOR LOOP STATEMENT
 - D-5.I INTRODUCTION OF FOR LOOP STATEMENT
 - D-5.II STRUCTURE & SYNTAX OF FOR LOOP STATEMENT
 - D-5.III CREATION OF PROGRAM WITH FOR LOOP STATEMENT
- D-6 NESTED FOR LOOP STATEMENT

- D-6.I INTRODUCTION OF NESTED FOR LOOP STATEMENT
- D-6.II STRUCTURE & SYNTAX OF NESTED FOR LOOP STATEMENT
- D-6.IIICREATION OF PROGRAM WITH NESTED FOR LOOP STATEMENT

E. THE STATEMENT

- E-1 INTRODUCTION OF STATEMENT
- E-2 INTRODUCTION OF JUMP STATEMENT
- E-3 INTRODUCTION OF BREAK STATEMENT
- E-4 STRUCTURE & SYNTAX OF BREAK STATEMENT
- E-5 PROGRAM CREATION USING BREAK STATEMENT
- E-6 INTRODUCTION OF CONTINUE STATEMENT
- E-7 STRUCTURE & SYNTAX OF CONTINUE STATEMENT
- E-8 PROGRAM CREATION USING CONTINUE STATEMENT

F. AN ARRAY

- F-1 INTRODUCTION OF ARRAY
- F-2 TYPES OF ARRAY
- F-3 ONE DIMENSIONAL ARRAY
 - F-3.I INTRODUCTION OF ONE DIMENSIONAL ARRAY
 - F-3.II DECLARATION OF ONE DIMENSIONAL ARRAY
 - F-3.III INTIALISATION OF ONE DIMENSIONAL ARRAY
 - F-3.IV PROGRAM CREATION USING ONE DIMENSIONAL ARRAY
- F-4 TWO DIMENSIONAL ARRAY
 - F-4.I INTRODUCTION OF TWO DIMENSIONAL ARRAY
 - F-4.II DECLARATION OF TWO DIMENSIONAL ARRAY
 - F-4.III INTIALISATION OF TWO DIMENSIONAL ARRAY
 - F-4.IV PROGRAM CREATION USING TWO DIMENSIONAL ARRAY

- G-1 INTRODUCTION OF FUNCTION
- G-2 TYPES OF FUNCTION
- G-3 ADVANTAGES OF FUNCTION
- G-4 IMPLEMENTATION OF FUNCTION
- G-5 DECLARATION OF FUNCTION
- G-6 CALLING A FUNCTION
- G-7 DEFINING OF USER DEFINED FUNCTION
- G-8 INTRODUCTION OF ACTUAL PARAMETER
- G-9 INTRODUCTION OF FORMAL PARAMETER
- G-10 INTRODUCTION OF CALLING FUNCTION
- G-11 INTRODUCTION OF CALLED FUNCTION
- G-12 PROGRAM CREATION USING FUNCTION
- G-13 CALLING A FUNCTION
 - G-13.I INTRODUCTION OF CALLING A FUNCTION
 - G-13.II INTRODUCTION OF CALL BY VALUE
 - G-13.III PROGRAM CREATION USING CALL BY VALUE
 - G-13.IV INTRODUCTION OF CALL BY REFERENCE
 - G-13.V PROGRAM CREATION USING CALL BY REFERENCE
 - G-13.VI FUNCTION WITH NO ARGUMENTS AND NO RETURN VALUE
 - G-13.VII FUNCTION WITH ARGUMENTS AND NO RETURN VALUE

- G-13.VIII FUNCTION WITH NO ARGUMENTS AND RETURN VALUE
- G-13.IX FUNCTION WITH ARGUMENTS AND RETURN VALUE
- G-14 ARRAY & FUNCTION
 - G-14.I INTRODUCTION OF ARRAY & FUNCTION
 - G-14.II DECLARATION OF ARRAY & FUNCTION
 - G-14.III PROGRAM CREATION USING ARRAY & FUNCTION
- G-15 RECURSIVE FUNCTION
 - G-15.I INTRODUCTION OF RECURSIVE FUNCTION
 - G-15.II DECLARATION OF RECURSIVE FUNCTION
 - G-15.III PROGRAM CREATION USING RECURSIVE FUNCTION
- G-16 STORAGE CLASSES
 - G-16.I INTRODUCTION OF STORAGE CLASSES
 - G-16.II TYPES OF STORAGE CLASSES
 - G-16.III INTRODUCTION OF AUTOMATIC VARIABLE
 - G-16.IV INTRODUCTION OF EXTERNAL VARIABLE
 - G-16.V INTRODUCTION OF STATIC VARIABLE
 - G-16.VI INTRODUCTION OF REGISTER VARIABLE

H. CHARACTER STRING

- H-1 INTRODUCTION OF STRING
- H-2 DECLARATION & INITIALISATION OF STRING VARIABLE
- H-3 READING STRING FROM TERMINAL
- H-4 WRITING STRING TO SCREEN
- H-5 STRING HANDLING LIBRARY FUNCTION
- H-6 PROGRAM CREATION USING CHARACTER STRINGS
- H-7 2-D STRING ARRAY
 - H-7.I INTRODUCTION OF 2-D STRING ARRAY
 - H-7.II DECLARATION OF Z-D STRING ARRAY
 - H-7.III PROGRAM CREATION USING 2-D STRING ARRAY

I. POINTER

- I-1 INTRODUCTION OF POINTER
- I-2 ADVANTAGES OF POINTER
- I-3 ACCESSING THE ADDRESS OF VARIABLE
- I-4 DECLARATION & INITIALIZATION POINTER
- I-5 ACCESSING A VARIABLE VALUE THROUGH ITS POINTER
- I-6 PROGRAM CREATION USING POINTER
- I-7 POINTER & ARRAY
 - I-7.I INTRODUCTION OF POINTER & ARRAY
 - I-7.II DECLARATION ARRAY WITH POINTER
 - I-7.III PROGRAM CREATION USING POINTER & ARRAY
- I-8 POINTER & CHARACTER STRINGS
 - I-8.I INTRODUCTION OF POINTER & CHARACTER STRINGS
 - I-8.II PROGRAM CREATION USING POINTER & CHARACTER STRINGS
- I-9 CALL BY REFERENCE
 - I-9.I INTRODUCTION OF CALL BY REFERENCE
 - I-9.II PROGRAM CREATION USING CALL BY REFERENCE

J. STRUCTURES

- J-1 INTRODUCTION OF STRUCTURE
- J-2 DEFINING A STRUCTURE
- J-3 DECLARING STRUCTURE VARIABLE
- J-4 ACCESSING STRUCTURE MEMBERS
- J-5 INPUT VALUE IN MEMBERS
- J-6 DUTPUT VALUE IN MEMBERS
- J-7 STRUCTURE INITIZALATION
- J-8 STRUCTURE & SYNTAX OF STRUCTURES
- J-9 PROGRAM CREATION USING STRUCTURE
- J-10 STRUCTURE & ARRAY
 - J-10. INTRODUCTION OF STRUCTURE & ARRAY
 - J-10. II STRUCTURE N SYNTAX OF STRUCTURE N ARRAY
 - J-10.III PROGRAM CREATION USING STRUCTURE & ARRAY
- J-11 STRUCTURE WITHIN STRUCTURE
 - J-11. INTRODUCTION OF STRUCTURE WITHIN STRUCTURES
 - J-11.II STRUCTURE N SYNTAX OF STRUCTURE WITHIN STRUCTURES
 - J-11.III DEFINING OF STRUCTURE WITHIN STRUCTURE
 - J-11.IV PROGRAM CREATION USING STRUCTURE WITHIN STRUCTURE
- J-12 STRUCTURE & FUNCTION
 - J-12.I INTRODUCTION OF STRUCTURE & FUNCTION
 - J-12.II STRUCTURE N SYNTAX OF STRUCTURE & FUNCTION
 - J-12.III DEFINING OF STRUCTURE & FUNCTION
 - J-12.IV PROGRAM CREATION USING STRUCTURE & FUNCTION

Module -3

C++ LANGUAGE

A. FUNDAMENTAL OF OBJECT ORIENTED PROGRAMMING

- A-MINTRODUCTION OF COP'S PULCE FIOGIAL
- A-2 FEATURES OF OOP'S
- A-3 INTRODUCTION OF OBJECTS
- A-4 INTRODUCTION OF CLASSES
- A-5 INTRODUCTION OF INHERITANCE
- A-6 INTRODUCTION OF REUSABILITY
- A-7 INTRODUCTION OF OVERLOADING
- A-8 CONCEPT OF OBJECTS & CLASSES

B. PROGRAMMING IN C++

- B-1 INTRODUCTION OF PROGRAMMING
- B-2 INTRODUCTION OF CHARACTER SET
- B-3 INTRODUCTION OF C++ TOKENS
- B-4 STRUCTURE OF C++ PROGRAM
- B-5 INTRODUCTION OF FUNCTION
- B-6 INTRODUCTION OF HEADER FILES
- B-7 INTRODUCTION OF INPUT/OUTPUT OF C++
- **B-8** USE OF MANIPULATORS
- B-9 USE OF EDITOR
- B-10 USE OF BASIC COMMANDS OF EDITORS
- B-11INTRODUCTION OF COMPILING & LINKING

C. DATA TYPES, VARIABLE, CONSTANT

- C-1 INTRODUCTION OF CONSTANTS
- C-2 TYPES OF CONSTANTS
- C-3 INTRODUCTION OF DATA TYPES
- C-4 TYPES OF DATA TYPES
- C-5 INTRODUCTION OF VARIABLE & INITIALIZATION OF VARIABLE
- C-6 INTRODUCTION OF OPERATORS & EXPRESSIONS
- C-7 TYPES OF OPERATORS & EXPRESSIONS
- C-8 PROGRAM CREATION USING OPERATORS & EXPRESSION
- C-9 INTRODUCTION OF AUTOMATIC TYPE CONVERSION IN EXPRESSION
- C-10 INTRODUCTION OF TYPE CASTING
- C-11 INTRODUCTION OF SHORT HANDS OF C++
- C-12 INTRODUCTION OF CONDITIONAL EXPRESSION
- C-13 INTRODUCTION OF NESTED IF
- C-14 INTRODUCTION OF SWITCH CASE DEFAULT
- C-15 PROGRAM CREATION USING CONDITIONAL EXPRESSION
- C-16 INTRODUCTION OF BREAK STATEMENT
- C-17 INTRODUCTION OF LOOP
- C-18 INTRODUCTION OF WHILE, DO WHILE & FOR LOOP
- C-19 PROGRAM CREATION USING LOOPS

D. ARRAY

- D-1 INTRODUCTION OF ARRAY
- D-2 NEED OF ARRAY
- D-3 TYPES OF ARRAY
- D-4 DECLARATION OF ARRAY
- D-5 INITIALISATION OF ONE DIMENSIONAL ARRAY
- D-6 INTRODUCTION N EXAMPLE OF AVERAGE OF ARRAY ELEMENTS
- D-7 INTRODUCTION N EXAMPLE OF LINEAR SEARCHING
- D-8 INTRODUCTION N EXAMPLE OF FINDING MAX/MIN VALUE FROM ARRAY
- D-9 DECLARATION OF STRING
- D-10 INITIALISATION OF STRING
- D-11 COUNTING VOWELS/CONSTANTS/DIGITS/SPECIAL CHARACTERS
- D-12 INTRODUCTION OF ISALNUM, ISALPHA, ISDIGIT, ISLOWER, ISUPPER, TOLOWER, TOUPPER, STRCPY, STRCAT, STRLEN, STRCMP
- D-13 INTRODUCTION OF 2-D ARRAY
 - D-13.I DECLARATION OF 2-D ARRAY
 - D-13.II INITIALIZATION OF 2-D ARRAY
 - D-13.III INTRODUCTION OF DIAGONAL ELEMENTS

E. USER DEFINED FUNCTIONS

- E-1 INTRODUCTION OF USER DEFINED FUNCTION
- E-2 DEFINING OF USER DEFINED FUNCTION
- E-3 INTRODUCTION OF FUNCTION PROTOTYPE
- E-4 INTRODUCTION OF CALLING A FUNCTION
- E-5 INTRODUCTION OF DEFAULT ARGUMENT
- E-6 INTRODUCTION OF CONSTANT ARGUMENT
- E-7 INTRODUCTION OF CALL BY VALUE

- E-8 INTRODUCTION OF CALL BY REFERENCE
- E-9 INTRODUCTION OF RETURNING VALUE FROM A FUNCTION
- E-10 INTRODUCTION OF CALLING A FUNCTION WITH ARRAY
- E-11INTRODUCTION OF SCOPE RULE OF FUNCTION & VARIABLE

F. MATHEMATICAL & OTHER FUNCTIONS

- F-1INTRODUCTION OF MATHEMATICAL FUNCTION
- F-2 INTRODUCTION OF STANDARD LIBRARY FILE

G. CLASSES & OBJECTS

- G-1 INTRODUCTION OF CLASSES
- G-2 INTRODUCTION OF SPECIFYING A CLASS
- G-3 DECLARATION OF CLASSES
- G-4 DEFINITION OF CLASSES INSIDE/ OUTSIDE
- G-5 DECLARATION OF OBJECTS
- G-6 ACCESSING CLASS MEMBER
- G-7 DEFINING MEMBER FUNCTION
- G-8 MAKING AN OUTSIDE INLINE FUNCTION
- G-9 NESTING OF MEMBER FUNCTION
- G-10 PRIVATE MEMBER FUNCTION
- G-11 ARRAY WITHIN A CLASS
- G-12 MEMORY ALLOCATION OF OBJECTS
- G-13 STATIC DATA MEMBERS & FUNCTION MEMBERS
- G-14 ARRAY OF OBJECTS
- G-15 OBJECTS AS FUNCTION
- G-16 RETURNING OBJECTS

H. CONSTRUCTOR & DESTRUCTOR

- H-1 INTRODUCTION OF CONSTRUCTOR
 H-2 SYNTAX N EXAMPLE OF CONSTRUCTOR
- H-3 INTRODUCTION OF DESTRUCTOR
- H-4 INTRODUCTION OF OBJECT & MEMORY
- H-5 INTRODUCTION OF STRUCTURE & CLASS
- H-6 INTRODUCTION OF FREE STORE IN C++
- H-7 INTRODUCTION OF FUNCTION OVERLOADING
- H-8 INTRODUCTION OF COPY CONSTRUCTOR

I. POLYMORPHISM

- I-1 INTRODUCTION OF POLYMORPHISM
- I-2 ADVANTAGES OF POLYMORPHISM
- I-3 TYPES OF POLYMORPHISM
- I-4 INTRODUCTION OF VIRTUAL FUNCTION
- I-5 SYNTAX N EXAMPLE OF VIRTUAL FUNCTION

J. OPERATOR OVERLOADING

- J-1 INTRODUCTION OF OVERLOADING
- J-2 TYPES OF OVERLOADING
- J-3 INTRODUCTION OF FUNCTION OVERLOADING
- J-4 SYNTAX N EXAMPLE OF FUNCTION OVERLOADING
- J-5 INTRODUCTION OF OPERATOR OVERLOADING

J-6 SYNTAX N EXAMPLE OF OPERATOR OVERLOADING

K. INHERITANCE

- K-1 INTRODUCTION OF INHERITANCE
- K-2 SYNTAX N EXAMPLE OF INHERITANCE
- K-3 TYPES OF INHERITANCE
- K-4 INTRODUCTION N EXAMPLE OF SIMPLE INHERITANCE
- K-5 INTRODUCTION N EXAMPLE OF MULTIPLE INHERITANCE
- K-6 INTRODUCTION N EXAMPLE OF HIERARCHICAL INHERITANCE
- K-7 INTRODUCTION N EXAMPLE OF MULTILEVEL INHERITANCE

L. FILE HANDLING

- L-1 INTRODUCTION OF DATA FILE
- L-2 INTRODUCTION OF TEXT FILE
- L-3 INTRODUCTION OF BINARY FILE
- L-4 INTRODUCTION OF INPUT/OUTPUT STREAM
- L-5 INTRODUCTION OF OPENING & DECLARATION OF FILE
- L-6 INTRODUCTION OF CLOSING FILE
- L-7 INTRODUCTION OF TEXT FILE
- L-8 INTRODUCTION OF CHECKING STATE FLAGS
- L-9 READING N WRITING A TEXT FILE USING FSTREAM CLASS
- L-10 EXAMPLES OF FILE HANDLING

Diploma in Computer Programming