



(A Venture of Chandigarh ETC Services Pvt. Ltd.)

An ISO 9001:2015 Certified Organisation with Completely Online Management System

Website : www.citcchandigarh.com

Course Syllabus: Advance Diploma in Computer Application, Hardware and Networking

Batch Name: ADCAHN

Eligibility: 12th

Course Start: 1st of Every Month

Course Duration: 650 Hours

Courses / Modules Paper

Semester 1

Paper 1	Paper 2
Fundamentals, MS Office	Internet & Digital Services

Semester 2:

Paper 1	Paper 2
Language C	HTML, CSS

Semester 3:

Paper 1	Paper 2
Core Hardware and PC Assembling	Installation of Application S/w & Troubleshooting

Semester 4:

Paper 1
Basic Networking Concepts, Network Configuration & Security

Semester 1

Paper 1: Fundamentals, MS Office

1: Fundamentals of Computer

- 1.1 Introduction to Computer
- 1.2 Block Diagram of Computer
- 1.3 Classification of Computer
- 1.4 Characteristics of computer
- 1.5 Generations of Computer
- 1.6 Uses of Computer
- 1.7 Input Devices
- 1.8 Output Devices
- 1.9 Computer Memory
- 1.10 Computer Hardware
- 1.11 Computer Software
- 1.12 Operating System

2: Number System

- 2.1 Introduction
- 2.2 types of Number Systems
- 2.3 Conversion of Number system

3 : Windows-7

- 3.1 Introduction to Windows
- 3.2 User Interface of Microsoft Window 2007
- 3.3 Changing Desktop Background
- 3.4 Changing Window Color
- 3.5 Changing Screen Saver
- 3.6 Changing Screen Resolution
- 3.7 Changing Data/Time
- 3.8 Making Empty Recycle Bin
- 3.9 Restoring Deleted File
- 3.10 Hard Drives

- 3.11 File and Folder Views
- 3.12 Copying File and Folder
- 3.13 Opening a File and Folder
- 3.14 Deleting a File and Folder
- 3.15 Renaming File and Folder
- 3.16 Working with Calculator
- 3.17 Working with Paint
- 3.18 Working with Notepad
- 3.19 Windows 7 vs Windows 10

4 : Internet and Networking

- 4.1 Internet
- 4.2 Advantages & Disadvantages of Internet
- 4.3 Search Engines and Web Browsers
- 4.4 Website
- 4.5 Domain Name
- 4.6 E-Commerce
- 4.7 Email
- 4.8 Computer Security Threats
- 4.9 Networking
- 4.10 Network Topology

MS Word

1: MS Word Home Tab

- 1.1 Introduction
- 1.2 Elements of MS Word
- 1.3 Explaining the Ribbons

2: MS Word Insert Tab

- 2.1 Insert
- 2.2 Pages
- 2.3 Tables
- 2.4 Illustrations

- 2.5 Links
- 2.6 Headers and Footers
- 2.7 Text Group
- 2.8 Symbols

3: MS Word Mailing

- 3.1 Create
- 3.2 Start Mail Merge

4: MS Word References

- 4.1 Table of Contents
- 4.2 Footnotes
- 4.3 Citation and Bibliography
- 4.4 Caption
- 4.5 Index
- 4.6 Table of Authorities

5: MS Word Review

- 5.1 Proofing
- 5.2 Comments
- 5.3 Tracking
- 5.4 Changes
- 5.5 Compare
- 5.6 Protect

6: MS Word Views

- 6.1 Document View
- 6.2 Show/Hide
- 6.3 Zoom Group
- 6.4 Macro

MS Excel

7: Introduction to Excel

- 7.1 Introduction
- 7.2 History of Excel

- 7.3 Uses of MS Excel
- 7.4 Important Components of Excel
- 7.5 Excel Window Overview
- 7.6 Font
- 7.7 Alignment
- 7.8 Clip Board
- 7.9 Number Formatting
- 7.10 Conditional Formatting
- 7.11 Format as Table
- 7.12 Cell Styles
- 7.13 Cells
- 7.14 Editing

8: MS Excel: Data

- 8.1 Get External Data
- 8.2 Sort and Filter
- 8.3 Data Tools

9: MS Excel: Insert

- 9.1 Tables
- 9.2 Illustrations
- 9.3 Charts
- 9.4 Links

10: MS Excel: Page Layout

- 10.1 Themes
- 10.2 Page Setup
- 10.3 Scale to Fit
- 10.4 Sheet Options
- 10.5 Arrange

11: MS Excel: Review

- 11.1 Proofing
- 11.2 Comments
- 11.3 Changes

12: MS Excel: View

- 12.1 Workbook Views
- 12.2 Show/Hide
- 12.3 Zoom
- 12.4 Window Group
- 12.5 Macros

MS Power Point

13: Power Point: Home

- 13.1 Starting MS Power Point
- 13.2 Elements of MS Power Point
- 13.3 Clip Board
- 13.4 Slides
- 13.5 Font Group
- 13.6 Paragraph
- 13.7 Drawing Groups
- 13.8 Editing Group

14: Power Point: Insert

- 14.1 Insert: Introduction
- 14.2 Tables
- 14.3 Illustrations Group
- 14.4 Links
- 14.5 Text Group
- 14.6 Media Group

15: Power Point: Design

- 15.1 Page Setup
- 15.2 Adding Themes to Presentation
- 15.3 Changing Slide Background
- 15.4 Variants

16: Power Point: Animation

- 16.1 Animations: Introduction
- 16.2 Timing Group
- 16.3 Add Custom Animation to Objects
- 16.4 Add Animations to Text
- 16.5 Custom Animation as Exact Effect
- 16.6 Motion Path under Custom Animation
- 16.7 Removing Animation
- 16.8 Transition to This Slide Tab
- 16.9 Advance slide

17: Power Point: Slide Show

- 17.1 Slide Show: Introduction
- 17.2 Slide Show Starting from the Beginning
- 17.3 Setup Group

18: Power Point: Review

- 18.1 Proofing
- 18.2 Comments
- 18.3 Protect Presentation

19: Power Point: View

- 19.1 View: Introduction
- 19.2 Presentation View Group
- 19.3 Show/Hide

- 19.4 Zoom
- 19.5 Color Tab
- 19.6 Window Tab
- 19.7 Macro

MS Access

20: MS Access-Overview

- 20.1 What is MS Access?
- 20.2 Advantages and Features of MS Access
- 20.3 Difference between Access and Excel
- 20.4 Architecture of MS Access
- 20.5 MS Access Objects
 - Tables
 - Queries
 - Forms
 - Reports
- 20.6 Other MS Access Objects
 - Macro
 - Module
- 20.7 Creating MS Access Database
 - Create Blank Database
- 20.8 Data Types Used in MS Access
 - Short Text
 - Long Text

21: MS Access-Creating Tables

- 21.1 Create Tables
- 21.2 Storing Data in Tables
- 21.3 Table Design View

22: MS Access-Query Data

- 22.1 What is Query in MS Access?
- 22.2 Create Select Query
- 22.3 Query Criteria
- 22.4 Action Queries
- 22.5 Types of Action Queries

23: MS Access-Relating Data

- 23.1 Introduction
- 23.2 Normalization
- 23.3 Defining Relationships
- 23.4 Types of Relationships
 - One-to-Many Relationships
 - Many-to-Many Relationships
 - One-to-One Relationships
 - Make-Table
- 23.5 Creating Relationships

24: MS Access-Grouping Data

- 24.1 Aggregate Query
- 24.2 Aggregate Query Functions
 - Sum
 - Avg
 - Min
 - Max
 - Count
 - StDev
 - Var
- 24.3 Concatenation of Data
- 24.4 Summarizing Data
 - Cross Tab Query

25: Joins and Query Wizard

- 25.1 What is Join?
- 25.2 Types of Joins in Access
 - The Inner Join
 - The Outer Join
 - The Left Outer Join
 - The Right Outer Join
 - Self Join
- 25.3 Concatenation of Data
- 25.4 Summarizing Data
 - Cross Tab Query
- 25.5 Query Wizard
 - Duplicated Query wizard
 - Unmatched Query Wizard

26: MS Access- Forms

- 26.1 Creating Forms
- 26.2 Two Basic Types of Forms
 - Bound Forms
 - Unbound Forms
- 26.3 Types of Bound Forms
 - Single Item Form
 - Multiple Item Form
 - Bound Forms
 - Split Forms
- 26.4 Creating Forms
- 26.5 Form Design

- 26.6 Modify Form
 - Themes
- 26.7 Navigation Form
- 26.8 Form Controls
 - Combo Box
 - Text Box
 - Label
 - Tab Control
 - Hyperlink
 - Check Box
 - List Box
 - Attachment
 - Image

27: MS Access- Reports

- 27.1 Creating Report
- 27.2 Create Report by Report Design
- 27.3 Formatting Reports

28: MS Access- Macros & Built-in Functions

- 28.1 What are Macros?
- 28.2 Creating a Macro
- 28.3 Formatting Reports
- 28.4 Built-in Functions

29: Data Import and Export

- 29.1 Import Different Types of Data
 - MS Excel
 - ODBC Database
 - Text Files
 - XML Files
- 29.2 Data Export
- 29.3 Data Export Formats
 - MS Excel
 - MS Access, XML Files
 - ODBC Database, Text Files

Paper 2: Data Handling, Internet

1 :Data Handling and Internet

- 1.1 Internet
- 1.2 Advantages & Disadvantages of Internet
- 1.3 Search Engines and Web Browsers
- 1.4 Website
- 1.5 Domain Name
- 1.6 E-Commerce
- 1.7 Email
- 1.8 Computer Security Threats
- 1.9 Networking
- 1.10 Network Topology
- 1.11 Creating Account
- 1.12 Downloading and Uploading
- 1.13 E-Wallet
- 1.14 Trojan/Virus
- 1.15 UPI
- 1.16 Net Banking

Semester 2:

Paper 1: Language C

1: Introduction of C

- 1.1 History
- 1.2 Why C language
- 1.3 Getting started with C
- 1.4 Writing first program: hello world
- 1.5 Algorithm and flowchart
- 1.6 Understanding the structure and syntax of C
- 1.7 C programming style

2: Fundamentals of C

- 2.1 Introduction
- 2.2 Character set
- 2.3 Keywords
- 2.4 Identifiers
- 2.5 Variables
- 2.6 Data types
- 2.7 Constants
- 2.8 Declaring a keyword
- 2.9 Reading data from keyboard

3: Operators and expressions

- 3.1 Introduction
- 3.2 Arithmetic operator
- 3.3 Increment and Decrement operator

- 3.4 Assignment operator
- 3.5 Relational operator
- 3.6 Logical operator
- 3.7 Conditional operator

4: Control Statements

- 4.1 Introduction
- 4.2 Branching statements
 - If
 - Nested if
 - If else
 - Nested if else
- 4.3 Looping statement
 - For loop
 - While loop
 - Do while loop
- 4.4 Jumping statement
 - Goto
 - Break
 - Continue

5: Function in C

- 5.1 Introduction
- 5.2 Types of functions
- 5.3 Types of user define functions
 - No return type with no arguments
 - Return type with no arguments
 - No return type with arguments
 - Return type with arguments
- 5.4 Need of functions
- 5.5 Scope rules
- 5.6 Recursion
- 5.7 Function using arguments
 - Call by value
 - Call by reference

6: Array in C

- 6.1 Introduction
 - Declaration of Array
 - Initializing an array
 - Accessing an Array
- 6.2 One-dimensional array
- 6.3 Two-dimensional array
 - Nesting of loops
- 6.4 Multi-dimensional array
- 6.5 Dynamic Array

7: Pointers in C

- 7.1 Introduction
- 7.2 Declaration of pointers
- 7.3 Initialization of pointers
- 7.4 Accessing variable through pointer
- 7.5 Pointer to a pointer
 - Declaring a double pointer
- 7.6 Operation on pointer
 - Increment and decrement operator
 - Addition & subtractions of constant value
 - Subtracting two pointers
 - Comparison between two pointers
- 7.7 Pointer to array
- 7.8 Array to pointer
- 7.9 Passing pointer as a function
- 7.10 Pointer to structure

8: Structures in C

- 8.1 Introduction
- 8.2 Defining a structure
- 8.3 Declaring a structure member
 - Declaring structure variable separately
 - Declaring structure variable along with Definition
- 8.4 Accessing structure member
 - With Dot operator
 - With arrow operator
- 8.5 Structure initialization
- 8.6 Array of structure
- 8.7 Using structure as a function argument
 - Passing structure member as an argument
 - Passing structure variable as an argument
 - Passing structures pointer as an argument

9: Union in C

- 9.1 Introduction
- 9.2 Declaration of union
- 9.3 Accessing union member
- 9.4 Bit field

10: Input and output

- 10.1 Introduction

- 10.2 Standard files
- 10.3 Formatted input output
 - scanf()
 - printf()
- 10.4 Unformatted input output
 - getchar()
 - Getch()
 - gets()
 - putchar()
 - puts()
- 10.5 Error Handling
 - errno
 - strerror
 - Perror

11: File I/O

- 11.1 Introduction
- 11.2 Needs of files
- 11.3 Types of files
 - Text files
 - Binary files
- 11.4 Files operations
 - File creation
 - Opening a file
 - Reading data from file
 - Writing data to file
 - Closing a file
- 11.5 Reading writing text files
 - getc()
 - putc()
 - getw()
 - putw()
 - getchar()
 - putchar()
 - fprintf()
 - fscanf()
- 11.6 Reading writing binary files
 - fread()
 - fwrite()

Paper 2: HTML-CSS

HTML

1: Starting with HTML

- 1.1 Introduction to HTML
- 1.2 What is HTML
- 1.3 HTML Versions
- 1.4 Web Browsers
- 1.5 HTML Editors
- 1.6 HTML Tags

2: HTML Images

- 2.1 HTML Images
- 2.2 alt attribute with images
- 2.3 style Attribute
- 2.4 Change the Height and Width of Image
- 2.5 Images as a Floating
- 2.6 HTML Images as a Link
- 2.7 Background Images
- 2.8 The <picture> Element
- 2.9 HTML Images vs Title Attribute

3: Links in HTML

- 3.1 Link
- 3.2 HTML Links
- 3.3 The Target Attribute
- 3.4 Images as Link
- 3.5 HTML Links Titles
- 3.6 External Paths
- 3.7 HTML Link Colors

4: HTML Lists

- 4.1 List
- 4.2 Types of Lists in HTML
 - Unordered List
 - Ordered List
 - Definition List

5: HTML Tables

- 5.1 Table Introduction
- 5.2 HTML Table-Adding Borders
- 5.3 HTML Table-Collapsed Borders
- 5.4 The Empty-cells Property
- 5.5 Table Heading Alignment
- 5.6 Cell Padding and Border Spacing
- 5.7 Cells that Span many Columns
- 5.8 Cells that Span many Rows
- 5.9 Adding a Caption
- 5.10 Table Styling

6: HTML Forms

- 6.1 The <form> Element
- 6.2 Text
- 6.3 Radio Button Input

- 6.4 The Submit Button
- 6.5 Attributes
- 6.6 Grouping Form Data with <fieldset>
- 6.7 The <select> Element
- 6.8 The <option> Element
- 6.9 Visible Values
- 6.10 Allow Multiple Selection
- 6.11 The <textarea> Element
- 6.12 The <datalist> Element
- 6.13 The Output Element
- 6.14 Input Type Password
- 6.15 Input Type Reset
- 6.16 Checkboxes
- 6.17 Input Type Color
- 6.18 Input Type Date
- 6.19 Input Type Email
- 6.20 Input Type Number
- 6.21 Input Type Range
- 6.22 Input Type Search
- 6.23 Input Type Tel
- 6.24 Input Type Time
- 6.25 Input type URL
- 6.26 Input Type Week
- 6.27 Input Attributes

7: HTML Blocks and Classes

- 7.1 HTML Blocks Introduction
- 7.2 The <div> Element
- 7.3 The Element
- 7.4 Using the Class Attribute
- 7.5 Using the id Attribute
- 7.6 HTML Iframes

CSS

8: Starting with CSS

- 8.1 What is CSS?
- 8.2 CSS Syntax
- 8.3 CSS Selectors
 - The id Selector
 - The class Selector
- 8.4 Grouping Selectors
- 8.5 CSS Comments
- 8.6 CSS File Inclusion
- 8.7 Multiple Style sheets
- 8.8 Cascading Order

9: CSS Colors

- 9.1 CSS Colors
- 9.2 Background Color
- 9.3 Text Color
- 9.4 Border color
- 9.5 Color Values
- 9.6 RGB Values
- 9.7 HEX Value
- 9.8 HSL Value
- 9.9 Saturation
- 9.10 Lightness
- 9.11 RGBA Value
- 9.12 HSLA Value

10: CSS Background

- 10.1 CSS Backgrounds
 - Background Color
 - Background Image
 - Background-Shorthand Property

11: CSS Borders

- 11.1 CSS Borders
 - Border Style Property
 - Border width Property
 - Border Color Property
 - Border-Individual Sides
 - Border -Shorthand Property
 - Rounded Borders

12: CSS Margins

- 12.1 CSS Margins
- 12.2 Margin Properties
- 12.3 Margin-Shorthand Property
- 12.4 the Auto Value
- 12.5 The Inherit Value

13: CSS Padding

- 13.1 CSS Box Model
- 13.2 CSS Padding Properties
 - Padding-Top
 - Padding-Bottom
 - Padding-Left
 - Padding-Right
 - Padding
- 13.3 Giving only one value to Padding

14: CSS Text

- 14.1 CSS Text Properties
- 14.2 Types of CSS Text Properties
 - Color Property
 - Text-Align Property
 - Text-Decoration Property
 - Letter-Spacing Property
 - Word-Spacing Property
 - Text-Indent Property
 - Direction Property
 - White-Space Property
 - Line-Height Property
 - Text-Shadow Property
 - Text-Transform Property

15: CSS Font

- 15.1 CSS Font Properties
- 15.2 Types of CSS Font Properties
 - Font-Family Property
 - Font-Style Property
 - Font-Size Property
 - Font-Weight Property
 - Font-Variant Property
 - Font Property

16: CSS Lists

- 16.1 CSS List Properties
- 16.2 Types of CSS List Properties
 - List-Style-Type Property
 - List-Style-Image Property
 - List-Style-Position Property
 - Marker -Offset Property
 - List-Style Property
- 16.3 Styling with Colors

17: CSS Scrollbars

- 17.1 CSS Overflow/Scrollbar Properties
- 17.2 Types of Overflow Properties Values
 - Visible
 - Hidden
 - Scroll
 - Auto
- 17.3 Overflow-x and Overflow-y

18: CSS Tables

- 18.1 CSS Tables Properties
- 18.2 Types of CSS Table Properties
 - Border Property
 - Border-Collapse Property
 - Width and Height Property
 - Vertical Align Property
 - Border-Spacing Property
 - Caption-Side Property
 - Empty-Cells Property
 - Table-Layout Property
 - Border-Bottom Property
 - Zebra-Striped Property
- 18.3 :hover Selector

Semester 3:

Paper 1: Core Hardware and PC Assembling

1: Basic Computer Concepts

- 1.1 Generation of Computer
- 1.2 Types of Computer
- 1.3 Characteristics
- 1.4 Block Diagram
- 1.5 CPU
- 1.6 Motherboard
- 1.7 RAM
- 1.8 ROM
- 1.9 Ports
- 1.10 Connectors
- 1.11 Vables
- 1.12 Slots and Crads
- 1.13 Bus Lines
- 1.14 Optical Disk Drive

2: Electronics

- 2.1 Electronic Components
- 2.2 Number System
- 2.3 Binary Number System
- 2.4 Octal Number System
- 2.5 Decimal Number System

- 2.6 Hexadecimal Number System
- 2.7 Logic Gates
- 2.8 Flip Flops
- 2.9 Multiplexer
- 2.10 De-Multiplexer

3: Input Device

- 3.1 Keyboard
- 3.2 Mouse
- 3.3 Touch Screen
- 3.4 Trackball and Joystick
- 3.5 Microphone
- 3.6 Scanning Devices
- 3.7 Bar Code Reader
- 3.8 MICR

4: Output Devices

- 4.1 Monitor Printer
- 4.2 Printer
- 4.3 Speaker
- 4.4 Projector

5: Storage Devices

- 5.1 Hard Disk
- 5.2 Compact Disk
- 5.3 Digital Video Disk
- 5.4 Pen Drive
- 5.5 Memory Card
- 5.6 Portable Hard Disk

Paper 2: Installation of Application Software and Troubleshooting

1: Installing Application Software

- 1.1 Application Software Introduction
- 1.2 Types of Application Softwares
 - MS Word
 - MS Excel
 - MS Access
 - MS Power-point
 - All Multimedia Softwares
 - Audio Convertors
 - Players
 - Video Encoders and Decoders
- 1.3 DOS
- 1.4 OS Installation
 - Windows 7
 - Windows 8
 - Windows 10
 - Server 2003
 - Server 2008
 - Linux
- 1.5 Drivers Updation

2: Troubleshooting

- 2.1 What is Troubleshooting ?
- 2.2 Troubleshooting Techniques

Module 4

Paper 1: Basic Networking Concepts, Network Configuration & Security

1: Introduction about Computer

- 1.1 Basics of Computer
- 1.2 Organization of Computer
- 1.3 Software and Hardware
- 1.4 Input/Output Device

2: Basic Networking concepts

- 2.1 Network Topologies
 - LAN
 - WAN
 - MAN
- 2.2 Networking Model
 - OSI Model
 - TCP/IP Model
- 2.3 Network Adapters
- 2.4 Introducing Protocols
- 2.5 Cabling and Troubleshooting

3: Introduction to various Networking Devices

- 3.1 Routers
- 3.2 Switches
- 3.3 Modems
- 3.4 Hubs
- 3.5 Wired and Wireless Technology

4: Inside PC

- 4.1 Opening the PC and Identification
- 4.2 Study of different Blocks
- 4.3 Assembling and Disassembling

5: Network Basic and Configuration

- 5.1 Setting IP Addresses
- 5.2 Sharing Files and Folders
- 5.3 Network troubleshooting
- 5.4 PING test, ipconfig etc.

6: Introduction to Server and Network Security

- 6.1 Types of Server
 - Files Server
 - E-Mail Server
 - Proxy Server
- 6.2 Basics of Internet and Intranet
- 6.3 Types of Internet Connections
 - Dialup, Broadband, Leased Line, Wi-Fi, 2G, 3G, 4G, www, E-Mails, Search Engines, Social Networking
 - Cloud Application
 - Audio-Video Conferencing
 - Voice Over Internet Protocol(VOIP)
- 6.4 Recovery and Backup
- 6.5 Essential Security Measures