



# ADVANCE DIPLOMA IN INFORMATION TECHNOLOGY

## INFORMATION TECHNOLOGY

MODULE : 1

- What is Information Technology
- What is Computer
- History of Computer

### Computer Hardware and Software

- What is Hardware
- Software and Types

### Input / Output and Storage Devices

- Using Input Devices
- Using Output Devices
- Computer Memory
- Data and Storage Devices

## INTRODUCTION TO WINDOWS 8

- What is Operating System
- Windows History
- Windows Environment
- A First Look at the Windows Desktop
- Windows Taskbar

### USING MS PAINT

- Create a File
- Save a File
- Open a File
- Working with tools
- Using Basic Shortcuts

### CUSTOMIZING THE WINDOWS DESKTOP

- Using Icons & Shortcuts
- Customizing Backgrounds & Window Appearance
- Customizing Screensavers & Icons
- Changing Screen Resolution

### ACCESSING THE START MENU

- Using Start Menu Option
- Customizing the Start Menu
- Finding Programs, Files & Settings

### WORKING WITH FILE AND FOLDERS

- Rename a File or Folder
- Delete a File or Folder
- Move or Copy a File or Folder
- Search a File or Folder

## Microsoft Office 2013

### MICROSOFT WORD

- Word Processing Basic
- Features of MS Word
- Typing and Inserting Text
- Selecting or Deleting Text
- Undo or Formatting TAB
- Format Painter
- Find and Replace
- Page Setting
- Illustration, Picture, Shapes, SmartArt, Screenshot
- Paragraph Attributers
- Moving, Copying and Pasting Text
- Columns
- Drop Caps
- Change Case
- Create Table
- Table Design View
- Table Layout

- Link
- Hyperlink
- Bookmark

- Comments
- Header & Footers
- Text
- Symbols

- Table of Content
- Footnotes
- Mail Merge

- Design Tab
- Page Setup & Printing

- Review Tab
- View Tab

## MICROSOFT EXCEL

### INTRODUCTION TO MS EXCEL 2013

- Introducing Excel
- Recognizing Interface Features Unique to Excel
- Understanding Workbook Structure
- Navigating through Workbooks
- Making Workbook Selections

### MANAGING WORKBOOK STRUCTURE

- Modifying Workbook & Worksheet Structure
- Resizing Worksheet Elements
- Hiding Workbook Component
- Workbook Protection

### WORKING WITH FORMULAS

- Excel Calculations
- Entering Formulas
- Formula Auditing

### WORKING WITH GRAPHICS

- Adding Clip Art
- Add an Image From a file
- Image Adjustment

### WORKING WITH HYPERLINK

- Using Bookmark
- External Link

### CUSTOMIZING EXCEL

- Customize Tabs
- Recording a Macro
- Running a Macro

### THE BASICS OF DATA

- Entering Text
- Entering Dates & Numbers
- Editing Cell Entries
- Copying & Moving Data
- Filling a Series

### FORMATTING CELLS

- Applying Basic Formatting
- Formatting Numbers
- Exploring the Format Cells Dialog Box
- Creating & Applying Cell Styles
- Conditional Formatting

### THE BASICS OF FUNCTIONS

- Using Basic Functions
- Controlling Calculation Options
- Linking Worksheets

### WORKING WITH CHART

- Creating Charts
- Modifying Chart Design

Working with Chart Layout & Format

### SORTING, FILTRATION AND VALIDATION

- Sorting Data
- Filtering Data
- Data Validation

### PREPARING FILES FOR DISTRIBUTION

- Print Area, Print Titles & Sheet Options
- Renaming Sheets & Adding Headers/Footers
- Printing Worksheets

## MICROSOFT POWERPOINT

### INTRODUCTION TO POWERPOINT 2013

- Exploring the PowerPoint Interface
- Views, Navigation & Keyboard Shortcut
- Setting Options & Saving Files

- PowerPoint Design Essentials
- Setting Up a New File
- Changing Backgrounds
- Placeholders & Bullets
- Adjusting Placeholders
- Adding Headers & Footers
- Saving PowerPoint Templates

## INTERNET & EMAIL

### INTRODUCTION TO INTERNET

- What is Internet
- History of Internet
- Advantages of Internet
- What is a Web Technology
- World Wide Web

### E-MAIL SYSTEM AND ITS WORKING

- E-Mail Registration
- Check a Mail
- Compose a Mail
- Attachments

### Web Server and Web Pages

- URL and Domain Names
- Internet Service Provider
- What is WEB Browsers
- Downloading & Uploading

## ADOBE PHOTOSHOP CC

### INTRODUCTION TO WEBSITE AND DEFINE TYPES

- Introduction to Photoshop
- Define types of Graphics
- Colors Modes
- Interface & Workspace
- Exploring the Lasso Tools
- Creating Selections Using the Magic Wand
- Transforming a Selection
- Copying Pasting and Moving a Selection
- Showing Off New Features
- Image Manipulation Layers Blending
- Layers Mode, Fill, Opacity
- Copy and Duplicate Layer
- Adjusting the colour and tone
- Brightness Contrasts
- Hue saturation, Level
- Define Different Colour Modes
- Colour Replacement
- Using History & Art History Tools
- Define Brush Tools & Create own Brush
- Define Pattern Tools & Create own Pattern
- Replace Colour, Pencil, Mixer Tools
- 
- Manipulating an image with Puppet Warp
- Pen Tools & its different types
- Shape Tool
- Introducing the Toolbox
- Working with Layers
- Using Palettes
- Using the Marquee Tools & its Option
- Specifying Colour & Adjustment
- Strategy for retouching
- Resolution and image size
- Straightening and cropping the image in Photoshop
- Using content-aware fill
- Image Editing Tools and its Practice
- Spot Healing, Healing, Patch
- Clone Stamp, Red eye
- Repairing areas with the Clone Stamp tool
- Image Adjustment
- Sharpening the image
- Smudge, Dodge, Burn
- Applying a content-aware patch
- What is Mask
- Creating a mask
- Layer Mask, Clipping Mask
- Creating a quick mask
- Concepts of Logo Designing
- Types of Logo
- Conception of Logo

## HTML 5

- What is a Web Browser?
- Why we use HTML 5
- What are Versions of HTML 5?
- What can You Do with HTML 5?
- Writing Code with a Text Editor
- HTML 5 New Elements
- Page Laying with HTML5
- New tag ( Article, Section, Header, Nav, Footer, Figure, Figcaption
- HTML 5 Audio Video
- Create Table Based Template Conversion

## ADOBE DREAMWEAVER CC

- Introducing Dreamweaver
- A Quick Tour
- Setting Up Your Workspace
- Working with panels
- Understanding Local and Remote Sites
- Creating the Local Site
- Defining the Remote Site
- Editing Site Definitions
- Working with the Files Panel
- Creating a New Page
- Titling Your Page
- Adding Text to Your Page
- Creating Links, Adding Images
- Naming and Saving Your Page
- Opening a Page
- Previewing in a Browser

## INTRODUCTION TO CSS 3.0

- Introduction to CSS 2.0 & 3.0
- CSS types
- Class and Id
- Difference between class and id
- Methods for applying CSS to your Web page
- Difference between table base and div base conversion
- Working with DIV
- Creating a div
- Creating Nested div
- Applying id and class in div
- Formatting div
- Creating a Style Rule for a Tag
- Dreamweaver CSS Categories
- Creating a Custom Class
- Creating Advanced Selectors
- Working with the CSS Styles Panel
- Applying Styles
- Page layout
- Positioning Page Content
- CSS Layout Basics
- Using the Included Layouts
- Laying Out Your Page
- Using the Visual Aids
- Templates
- Working with Position
- Transition and Animation
- Creating a template
- Using pre-set layouts
- New Form elements
- Adding editable regions
- Create navigation bar
- Applying a template to a page
- Create Dynamic type Boxes
- Updating templates
- Using Forms and Fields
- Adding a Form to a Page
- Adding Text Fields, Adding a Text Area, Adding Check Boxes, Adding a Fieldset, Adding a Radio Button Group, Adding a List/Menu, Adding a Button

## JQUERY (EMBEDDED)

- JQuery Embed in Html
- Navigation and its changes
- Slider Code Based
- Slider Software Based

## HARDWARE and Software

### Intro of computer hardware & software

- Basic Terms, Concepts, and function of system modules.
- Identify the names, purposes, and characteristics of internal components
- Identify the names, purposes, and characteristics of Motherboard
- Identify the names, purposes, and characteristics of Memory
- Identify the names, purposes, and characteristics of Processor
- Identify the names, purposes, and characteristics of Different Slots & Buses, Connectors

- Identify the names, purposes, and characteristics of storage drives
- Identify the names, purposes, and characteristics of cases and power supplies

### **Identify the names, purposes, and characteristics of Out-put & Input Devices Works**

- Fundamental Printers and Scanners
- Describe characteristics and capabilities of printers
- Describe laser printers
- Describe impact printers
- Describe ink jet printers
- Describe solid-ink printers
- Describe other printer types
- Describe the types of scanners currently available
- I/O operations, Care and service techniques, connection and configuration.
- Unique components of portable systems and their unique problem and configuration.

### **Identify the names, purposes, and characteristics of CMOS & BOIS**

- BOIS Configurations & Updating

### **OS Installation & Troubleshooting**

- Different types of OS
- OS Differentiate

### **Hard Disk management & partition**

- Hard Disk management & partition practical
- External storage devices
- Installation of Peripherals and configuring them.
- Handling of Synthetic and Effective tools.

### **Step-By-Step Virtual Assembling / Logical:**

#### **Safety and Preventive Maintenance:**

- Schedule a task
- Explain the purpose of preventive maintenance
- Various types of preventive maintenance products and procedures.
- Software procedures and hard ware devices.
- Potential hazards and proper safety procedures.
- Items that require special disposal procedures.
- Electronic Discharge (ESD).
- Fundamental Security
- Explain why security is important
- Describe security threats
- Define viruses, worms, and Trojans
- Explain web security

#### **Diagnosing and Troubleshooting**

- Common symptoms and problems.
- Identify the problem
- Determine an exact cause
- Identify common problems and solutions
- Common Associate problems.

#### **Basic Networking**

- Explain the principles of networking
- Define computer networks
- Explain the benefits of networks
- Describe topologies
- Describe the physical components of a network
- File shearing

- IP Address
- Cable & connector making
- Mapping

## Web Development

## Module 2

### Java Scripting (Client side Scripting)

- Introduction to Script and types of Script
- Introduction to JavaScript
- Variable,
- Data type
- Decision statements
- Looping Concepts
- Array & Date Objects
- String Functions
- Client Side Form Validation

### Introduction to JQuery

- Introduction to JQuery
- Installation of jQuery
- Basic Syntax of JQuery
- Effects OF JQuery
- JQuery with HTML
- Navigation
- Slider
- Gallery
- JQuery Examples

### Introduction to Wordpress & SEO

- How to install and configure WordPress
- Installation and Configure WampServer
- How to Create database in wampserver
- Create user & assign privileges
- Understanding WordPress Dashboard
- Installation third party plugin
- Create Users
- Dashboard Customization
- The SEO Opportunity
- Planning site title and meta tags
- Create Keyword
- Manage & Customize own Themes
- How to use Theme & Plugin
- Create Own Blog
- Manage Links
- Create New Menu in WordPress
- Introduction to SEO
- Ensure WordPress websites SEO friendly
- System Analysis with Project
- Content Strategy
- Onsite and Offsite
- Directory and Social Media Files

### Server Side Scripting using PHP

- PHP BASICS
  - HOW PHP WORKS
  - THE PHP.INI FILE
  - BASIC PHP SYNTAX
    - PHP TAGS
    - PHP STATEMENTS AND WHITESPACE
    - COMMENTS
    - PHP FUNCTIONS
  - VARIABLES
    - VARIABLE TYPES
    - VARIABLE NAMES (IDENTIFIERS)
    - TYPE STRENGTH
    - VARIABLE SCOPE
    - SUPERGLOBALS
    - CONSTANTS
    - VARIABLE-TESTING AND MANIPULATION FUNCTIONS
  - PHP OPERATORS
  - CREATING DYNAMIC PAGES
- TWO-DIMENSIONAL ARRAYS
  - READING FROM TWO-DIMENSIONAL ARRAYS
  - LOOPING THROUGH TWO-DIMENSIONAL ARRAYS
- READING FROM TWO-DIMENSIONAL ARRAYS
- LOOPING THROUGH TWO-DIMENSIONAL ARRAYS
- ARRAY MANIPULATION FUNCTIONS
- PHP AND HTML FORMS
  - HTML FORMS
    - HOW HTML FORMS WORK
    - A SAMPLE HTML FORM
    - FORM VARIABLES
- STRING MANIPULATION
  - FORMATTING STRINGS
    - CONCATENATION
    - STRING MANIPULATION FUNCTIONS
    - EXAMPLES OF STRING FUNCTIONS

- FLOW CONTROL
  - CONDITIONAL PROCESSING
    - IF CONDITIONS
  - IF CONDITIONS
  - LOOPS
    - WHILE
    - DO...WHILE
    - FOR
    - BREAK AND CONTINUE
- ARRAYS
  - ENUMERATED ARRAYS
    - INITIALIZING ARRAYS
    - APPENDING TO AN ARRAY
    - READING FROM ARRAYS
    - LOOPING THROUGH ARRAYS
  - INITIALIZING ARRAYS
  - APPENDING TO AN ARRAY
  - READING FROM ARRAYS
  - LOOPING THROUGH ARRAYS
  - ASSOCIATIVE ARRAYS
    - INITIALIZING ASSOCIATIVE ARRAYS
    - READING FROM ASSOCIATIVE ARRAYS
    - LOOPING THROUGH ASSOCIATIVE ARRAYS
    - SUPERGLOBAL ARRAYS
  - INITIALIZING ASSOCIATIVE ARRAYS
  - READING FROM ASSOCIATIVE ARRAYS
  - LOOPING THROUGH ASSOCIATIVE ARRAYS
  - SUPERGLOBAL ARRAYS
- REGULAR EXPRESSIONS
  - PERL-COMPATIBLE REGULAR EXPRESSION FUNCTIONS
    - PREG\_MATCH()
    - PREG\_REPLACE()
    - REGULAR EXPRESSION TESTER
  - PREG\_MATCH()
  - PREG\_REPLACE()
  - REGULAR EXPRESSION TESTER
  - REGULAR EXPRESSION SYNTAX
    - START AND END ( ^ \$ )
    - NUMBER OF OCCURRENCES ( ? + \* { } )
    - COMMON CHARACTERS ( . \D \d \W \w \S \s )
    - GROUPING ( [ ] )
    - NEGATION ( ^ )
    - SUBPATTERNS ( ( ) )
    - ALTERNATIVES ( | )
    - ESCAPE CHARACTER ( \ )
  - START AND END ( ^ \$ )
  - NUMBER OF OCCURRENCES ( ? + \* { } )
  - COMMON CHARACTERS ( . \D \d \W \w \S \s )
  - GROUPING ( [ ] )
  - NEGATION ( ^ )
- REUSING CODE AND WRITING FUNCTIONS
  - INCLUDING FILES
    - REQUIRE
    - REQUIRE\_ONCE
  - FORM PROCESSING
  - CODE ORGANIZATION
- INTRODUCTION TO PHPMYADMIN
  - INTRODUCTION TO THE DATABASE
  - SOME BASICS
- MYSQL AND MYSQL QUERIES
  - SELECT
  - INSERT
  - UPDATE
  - DELETE
- MANAGING DATA
  - QUERYING A DATABASE
    - MYSQLI() OVERVIEW
    - MYSQLI METHODS AND PROPERTIES
    - INSERTING AND UPDATING RECORDS
    - MYSQLI PREPARED STATEMENTS
- AUTHENTICATION WITH PHP AND SQL
  - A DATABASE-LESS LOGIN FORM
- SESSION CONTROL AND COOKIES
  - SESSIONS
    - CONFIGURING SESSIONS
    - SESSION FUNCTIONS
  - CONFIGURING SESSIONS
  - SESSION FUNCTIONS
  - COOKIES
  - CONCLUSION
- SENDING EMAIL WITH PHP
  - MAIL()
    - SHORTCOMINGS OF MAIL()
  - SHORTCOMINGS OF MAIL()
  - PHPMAILER

- SUBPATTERNS ( () )
- ALTERNATIVES ( | )
- ESCAPE CHARACTER ( \ )
- FORM VALIDATION FUNCTIONS WITH REGULAR EXPRESSIONS

## Desktop & Web Application Programming

Module 3

### C-SHARP .NET

Duration: 4 Months

- C-SHARP Overview
- What is C#
- Why use C#, And History of C#
- C# Language Fundamentals (Includes: Understanding the structure of a C# program, Compiling and running your code)
- Using operators
- Program Flow (Includes: Reading and writing from and to the Console, Writing conditional statements.
- Using the switch statement,
- Using constants and enumerations, using loops.
- functions and methods
- Includes: Working with arrays and its types
- Using array lists
- Abstraction, Encapsulation, Inheritance
- Variables (data types, Understanding variable scope, Understanding type conversion)
- Using access modifiers, Defining properties, Understanding value and reference types)
- Polymorphism (More Complex Classes (Includes: Overloading methods, Overriding methods)
- Creating abstract classes and methods, Using sealed classes, Defining structs , Using interfaces)
- Exception Handling (Includes: Understanding exceptions, Introducing the Exception object, Creating your own exceptions, Re-throwing exceptions)
- ADO.NET & SQL Queries



## ASP.net with SQL Server

- Server site scripting Language
- .Net technology & .Net Framework
- Microsoft Intermediate Language
- Basic Feature of ASP.net
- Creating an ASP.net Page
- ASP.net Environment
  
- Coding Methods in ASP.net
- Types of controls in ASP.net
- HTML server Controls
- Web server Controls
- Validation server controls
- Common web server controls
  - Label,Textbox,Button,
  - LinkButton, ImageButton
  - listbox,dropdownlist,
  - Radio button,radiobutton listbox
  
  - Image, ImageMap,
  - Calendar Control
  - FileUpload
  - Panel, Placeholder
  - Adrotator
- ASP.net Intrinsic Objects
- Response
- Request
- Application
- Session
- Server
- Navigation between Pages
  
- ASP.net Exception Handling
- Review of Try-Catch-Finally for handling Exception.
- Data binding(Displaying and Updating Data)
- Simple data binding to controls(grid view, Repeater, Datalist)
- Overview of ADO.net
  - SqlConnection
  - SqlDataAdapter
  - Dataset
  - SqlDataReader
  - SqlCommand
- Accessing and manipulating database (SQL query and stored procedure)
- What is XML
- Working with XML in ASP.NET
- Insert delete Update using XML
- Introduction to Ajax
- Basic Ajax Controls
  - Button extender
  - Calendar Extender
  - Confirmation extender control
  - Accordion
- Always visible control

## SYSTEM ANALYSIS AND DESIGN

### Introduction To System

- What IS System
- Types OF System
- Characteristics OF System
- Role Of System Analyst
- Responsibilities And Qualities of System Analyst

### Tools OF Analysis

- Structured Approach
- HIPO techniques

### Problem Definition & Classification

- Kinds OF Problems in a business
- System Complexity OF Problems
- Gaining Organizational Commitment

### Planning Alternatives And Feasibility

- Data Collection & Planning
- Planning Alternatives
- Feasibility study and Preparation of feasibility report
- Cost Determination

### System Design

- Logical Design
- Physical Design

- Information System
- System Development Life Cycle (SDLC)

### Effective Communication Skills

- Communication Skills of System Analyst
- Interview, types, Techniques and Session
- Group Communication
- Generating Creative Ideas
- Brain Storming session
- Nominal Group Session
- DFD & ERD
- System Flow Chart, CASE Tools

### Data Collection And Analysis

- Methods OF Data Collection
- Levels Of Information
- Methods Of Analysing Problems
- Development OF System Proposal
- Pilot or Prototype development
- Program (Software Development) (a brief view)
- Processes and methods of software development
- Linear sequential Model
- Spiral Model
- Prototype Model
- RAD Model

