



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

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

Website : [www.citcchandigarh.com](http://www.citcchandigarh.com)

## Course Syllabus: Advance Diploma in Information Technology

Batch Name: ADIT

Eligibility: 12th

Course Start: 1st of Every Month

Course Duration: 350 Hours

### Courses / Modules Paper

#### Module 1:

Paper 1	Paper 2
Internet & Digital Services	IT Concepts and Multimedia

#### Module 2:

Paper 1	Paper 2
Networking Concepts, Configuration & Security	E-Commerce

#### Module 1:

##### Paper 1: Internet & Digital Services

#### 1: Internet

- 1.1 Introduction to internet
- 1.2 Surfing and searching on internet
- 1.3 Email
  - Creating account
  - Sending and receiving email
  - Reply to an email
  - Forwarding email
  - CC and BCC in email
- 1.4 Introduction to web browser
- 1.5 Downloading & uploading files
- 1.6 Google drive
- 1.7 Search engines
- 1.8 Introduction to Viruses
  - Types of viruses

#### 2: Digital Services

- 2.1 Introduction
- 2.2 Net Banking
- 2.3 Debit/ Credit card transactions
- 2.4 E-wallet
- 2.5 UPI
- 2.6 Fraud e-mails
- 2.7 Spams

##### Paper 2: IT Concepts & Multimedia

#### IT Concepts

#### 1: Introduction to IT Concepts

- 1.1 What is data & information
- 1.2 What is computer
- 1.3 How computer process information

#### 2: Components of Computer System

- 2.1 Input Devices
- 2.2 Output Devices
- 2.3 Storage Units
- 2.4 Central Processing Unit (CPU)

- 2.5 Arithmetic & Logic Unit (ALU)
- 2.6 Control Unit (CU)

#### 3: Types of Computer

- 3.1 Introduction to generation of computer
- 3.2 Super computer
- 3.3 Mainframe computer
- 3.4 Micro computer
- 3.5 Mini computer

#### 4: Computer Hardware Components

- 4.1 Basics of computer hardware
- 4.2 Hardware Components
  - CPU
  - Motherboard

#### 5: Types of Storage Devices

- 5.1 Introduction to storage devices
- 5.2 Types of storage devices
  - Hard drive
  - CD-ROM
  - DVD-ROM
  - Flash media
  - Removable hard drive

#### 6: Types of Softwares

- 6.1 Introduction to software
- 6.2 Types of software
  - System software
  - Application software

#### Multimedia

#### 1: Introduction to Multimedia

- 1.1 What is Multimedia
  - Components of Multimedia
- 1.2 Multimedia and Hypermedia
- 1.3 World Wide Web
- 1.4 Overview of Multimedia Software tools
  - Music Sequencing and Notation
  - Digital Audio
  - Graphics and Image Editing
  - Video Editing

#### 2: Multimedia Authoring and Tools

- 2.1 Multimedia Authoring
  - Multimedia Authoring Metaphores
  - Multimedia Production
  - Multimedia Presentation
  - Automatic Authoring
- 2.2 Useful Editing and Authoring Tools
  - Adobe Premeir
  - Macromedia Director
  - Macromedia Flash
  - Dreamweaver
- 2.3 VRML
  - Overview
  - Animation & Interaction
  - VRML Specifics

#### 3: Graphics and Image Data Representation

- 3.1 Graphics / Image Data Types
  - 1- Bit Images
  - 8- Bit Grey Level Images
  - Image Data Types
  - 24- Bit Color Images
  - 8-Bit Color Images
- 3.2 Popular File Formats

#### 4: Color in Image and Video

- 4.1 Color Science
- 4.2 Color Model in Images
  - RGB Color Model
  - CMY Color Model
  - CMYK System
  - Transformation from RGB to CMY
- 4.3 Color Models in Videos
  - Video Color Transforms
  - YUV Color Model
  - YIQ Color Model
  - YCbCr Color Model

#### 5: Fundamental Concepts in Video

- 5.1 Types of Video Signals
  - Component Video
  - Composite Video

- S-Video
- 5.2 Analog Video
  - NTSC Video
  - PAL Video
  - SECAM Video
- 5.3 Digital Video
  - Chroma Sub Sampling
  - CCIR Standards for Digital Videos
  - High Definitions TV(HD TV)

## 6: Basics of Digital Audio

- 6.1 Digitization of Sound
  - What is Sound
  - Digitization
  - Nyquist Theorem
  - SNRSQNR Linear and Non-Linear
- Quantization
  - Audio Filtering
- 6.2 MIDI
  - MIDI Overview
  - Hardware Aspects of MIDI
  - Structure of MIDI Messages
- 6.3 Quantization and Transmission of Audio

## 7: Multimedia Data Compression

- 7.1 Lossless Expression and Algorithm
- 7.2 Lossy Compression Algorithms
- 7.3 Image Compression Standards
- 7.4 Basic Media Compression Techniques
- 7.5 Basic Audio Compression Techniques
- 7.6 MPEG Audio Compression

### Module 2

#### **Paper 1: 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

### **Paper 2: E-Commerce**

#### 1: Introduction to E-Commerce

- 1.1 Introduction to commerce
- 1.2 E-Commerce vs Traditional Commerce
- 1.3 E-commerce Activities
- 1.4 Internet- Backbone of E-commerce

#### 2: E-Marketing

- 2.1 Traditional marketing
- 2.2 E-marketing

#### 3: E-Security

- 3.1 Security of Internet
- 3.2 Network & Website Security
  - Transaction Security
  - Data Protection
- 3.3 Firewall

#### 4: Types of E-Commerce

- 4.1 Introduction
  - B2B
  - B2C
  - C2B
  - C2C
  - B2G
- 4.2 Function of E-Commerce
- 4.3 Applications of E-Commerce

#### 5: E-Business

- 5.1 Introduction
- 5.2 Steps in setting up Business on Internet
- 5.3 Domain Name
  - Introduction
  - Registering Domain
  - Choosing Domain Name
  - Expired Domain
- 5.4 Web Authoring Tools
- 5.5 Online Promotion Tools & Techniques

THE HUB OF IT