Sindh Board of Technical Education Karachi

DIPLOMA IN INFORMATION TECHNOLOGY (DIT)
Detailed Course Outline

Semester –I
Duration: 6 Months (500 Hours) Total Marks 900

S.#	Subject	Total Hours	Theory (Hours)	Practical (Hours)	External/Board Marks	Internal Marks (Attendance, Assignments, Presentations)	Total Marks
01.	Information & Communication Technology (ICT)	100	100	-	80 (Theory)	20	100 (Theory)
02.	Office Automation Word , Excel, PowerPoint & Internet)	100	40	60	80 + 80 (Th +Viva)	20+20	100 + 100 (Th +Viva)
03.	Web Designing & Development (HTML, CSS, PHP)	100	40	60	80 + 80 (Th +Viva)	20+20	100 + 100 (Th +Viva)
04.	C Programming	100	40	60	80 + 80 (Th +Viva)	20+20	100 + 100 (Th +Viva)
05.	Operating System	100	40	60	80 + 80 (Th +Viva)	20+20	100 + 100 (Th +Viva)
TOTAL		500	260	240	720	180	900

Semester –II
Duration: 6 Months (500 Hours) Total Marks 900

S.#	Subject	Total Hours	Theory (Hours)	Practical (Hours)	External/Board Marks	Internal Marks (Attendance, Assignments, Presentations)	Total Marks
01.	Data Communication & Networking.	100	40	60	80 + 80 (Th +Viva)	20+20	100 + 100 (Th +Viva)
02	Core Hardware & PC Maintenance (A+)	100	40	60	80 + 80 (Th +Viva)	20+20	100 + 100 (Th + Viva)
03.	Desktop Publishing (Adobe Photoshop CS, Corel Draw, Inpage)	100	40	60	80 + 80 (Th +Viva)	20+20	100 + 100 (Th +Viva)
04.	Database (MS Access & SQL / My Sql)	100	40	60	80 + 80 (Th +Viva)	20+20	100 + 100 (Th +Viva)
05.	Live Project	60	-	60	80 (Viva)	20	100 (Viva)
TOTAL		500	200	300	720	180	900

Diploma in Information Technology (DIT)
Semester – I

SUMMARY

Course Title **Information & Communication Technology (ICT)**

Objectives:

The Course outline has been described in detail and in more appropriate way covering different areas of Information & Communication Technology. Topics have been restructured. Some topics such as introduction to programming techniques are added (that is not covered in any other course) and number system (which is needed for developing applications).

Course Duration	Theory	100 Hours	03 Hours per week
	Practical / Lab.	0 Hours	No theoretical depiction is needed
Assessment Approach		Total assessment based on final examination	
Theory		100 Marks	

Reference Books.

Understanding Computer: Today and Tomorrow, Comprehensive"14th Edition (Text Book)	Deborah Morely, Charles S. Parker,
Introduction to Computer	Peter Norton's (7th Edition)

❖ INTRODUCTION TO COMMUNICATION TECHNOLOGY (ICT)

Course Framework

Introduction to the world of Computers

- Introduction to Computers
- Exploring Computers and their uses
- Data & Information
- ICT: Computer & Communication Technologies
- Information Technology
- Computer Technology
- Computer for individual Users
- Computers to fit every need
- History of Computer & Generation of Computers.
- Type of Computer.
- *Classification of Digital Computers*
- Computers in society

The system unit: Processing and Memory

- Overview
- Data & Program representation
- Inside the System Unit
- How the CPU works
- Making Computers faster and better now and in future.
- Hardware.
- Software.

Number System.

- Binary Number System.
- Octal Number System.
- Decimal Number System.
- Hexadecimal Number System.
- Inter Conversion.
- Addition Subtraction.

Storage

- Overview
- Storage System Characteristics
- Hard drives
- Optical Discs
- Flash Memory
- Other types of Storage Systems

Input & Output

- Overview
- Keyboards
- Pointing & Touch devices
- Scanners Readers, and digital Cameras

- Audio Input
- Display Devices
- Printers & Audio Output

System Software

- Overview
- System software vs Application software
- The operating system
- Operating System
- Operating systems for personal computers and servers
- Operating systems for mobile phones
- Operating systems for larger computers
- Utility programs
- The future of operating systems

Application Software.

- Overview
- The Basics of Application software
- Word processing concepts
- Spreadsheet
- Database concepts
- Presentation Graphics concepts
- Graphics and Multimedia concepts
- Other types of application software

Computer Networks.

- Overview
- What is network?
- Network Applications
- Network Characteristics
- Data Transmission Characteristics
- Networking media
- Communications protocol and networking standards
- Networking Hardware

The Internet and World wide web.

- Overview
- Evolution of the internet
- Getting setup to use the Internet
- Search the Internet
- Beyond Browsing and the E-mail
- Censorship and privacy issues

E-Commerce.

- Overview
- What is E-commerce?
- E-commerce business models
- Types of E-commerce website
- Implementing web-based E-commerce & Security issues

Future Trends in ICT

- Artificial Intelligent
- Grid Computing
- Cloud Computing
- Collaborative Computing
- Robotics

Diploma in Information Technology (DIT)
Semester – I

SUMMARY

Course Title: **Office Automation**

Objective

The course outline has been described in detail and in more appropriate way covering different area of Information Technology & Office related work.

To present a broad overview of computing, application software for personal computers programming and system software, applications and social issues in the work place, and a brief history of computing (text editor, word processor etc).

To present laboratory instruction in the use of the most important types of application software – word processors, spread sheets, graphics and presentation systems

To give students a good understanding about Internet.

To use different tools & technologies use to run Internet such as World Wide Web, Web browser, Electronic Mail, Newsgroups etc.

Course Duration		
Theory	40 Hours	02 Hours per week
Practical / Lab.	60 Hours	03 Hours per week

Assessment Approach	Total Assessment based on final examination
Theory	100 Marks
Practical / Viva	100 Marks

Reference Books.

MS OFFICE	Any reference book that covered the topics
Mastering The Internet	Cady Mc GREGOR, PBP publication sybex

❖ OFFICE AUTOMATION
Course Framework

Microsoft Office

- Introduction to MS Office.
- Importance of MS OFFICE
- Overviews of MS Office 97, 2000, 2003, 2007, 2010, 2013, 2014, 2015 & 2016.
- Different b/w Office 97, 2000, 2003, 2007, 2010, 2013, 2014, 2015 & 2016.

MS-Word 2013 - 2016 (Word Processing)

- Introduction to MS word
- Features of MS word
- Working with Menus & Icons
- Customizing Menus and Toolbars
  - Save, Undo, Redo, Print preview.
- File
  - Info, New, Open, Save, Save as, Print, Share, Export, Close, Account, Options.
- Home
  - Clipboard, Basic Font, Paragraph, Style, Editing.
- Insert
  - Pages, Tables, Illustration, Apps, Media, Links, Comments, Header & Footer, Text, Symbols.
- Design
  - Document Formatting, Page Background.
- Page Layout
  - Page Setup, Paragraph, Arrange.
- Reference
  - Tables of Contents, Footnote, Citations & Bibliography, Caption, Index, Table of Authorities.
- Mailing
  - Create, Start mail merge, Write & Insert Fields, Preview results, Finish.
- Review
  - Proofing, Language, Comments, Tracking Changes, Compare, Protect.
- View
  - Views, Show, Zoom, Windows, Macros.

MS-EXCEL (Spread Sheet)

- What is Spread Sheet?
- Introduction to MS Excel
- Features of MS Excel
- Working with worksheets
- Working with Menus & icons
- Customizing menus and tool bar
  - Save, Undo, Redo, Print preview.
- File
  - Info, New, Open, Save, Save as, Print, Share, Export, Close, Account, Options.
- Home
  - Clipboard, Basic Font, Alignments, Number, Styles, Cells, Editing.
- Insert
  - Tables, Illustration, Apps, Charts, Tours, Reports, Spark lines, Filters, Links, Text, Symbols.
- Page Layout
  - Themes, Page Setup, Scale to fit, Sheet Options, Arrange.

- Formulas
  - Function Library, Defined Names, Formula, Auditing, Calculation.
- Data
  - Get External Data, Connections, Sort & Filter, Data tools, Outline.
- Review
  - Proofing, Language, Comments, Changes, Protect.
- View
  - Workbook Views, Show, Zoom, Windows, Macros.

Ms-Power Point (Graphics Presentation)

- Introduction to Power Point
- Features of Power Point
- Working with Menus & Icons
- Customizing Menus & Toolbars
  - Save, Undo, Redo, Print preview.
- File
  - Info, New, Open, Save, Save as, Print, Share, Export, Close, Account, Options.
- Home
  - Clipboard, Slides, Basic Font, Paragraph, Drawing, Editing.
- Insert
  - Slides, Tables, Images, Illustrations, Apps, Links, Comments, Text, Symbols, Media.
- Design
  - Themes, Variants, Customize.
- Transitions
  - Transition to this Slide, Timing.
- Animations
  - Preview, Animation, Advanced Animation, Timing.
- Slide Show
  - Start Slide Show, Setup, Monitors.
- Review
  - Proofing, Language, Comments, Compare.
- View
  - Presentation Views, Master Views, Shows, Direction, Zoom, Color/Grayscale, Windows, and Macros.

Internet

- Introduction to Internet
- Create new ID to Yahoo, Hotmail, and Gmail etc.
- World Wide Web Terminologies
- E-Mail System & Its Working.
- Basic Concept of http, ftp, .com, .net, .pk, .org….,
- Working with Search Engine
- Working with Social Web Sites

Diploma in Information Technology (DIT)
Semester – I

SUMMARY

Course Title: **WEB Designing & Development**

Objective The course outline has been described in detail and in more appropriate way covering different area of Web Designing & Web Site Development.

To present a broad overview of designing & composing software.

Course Duration	Theory	40 Hours	02 Hours per week
	Practical / Lab.	60 Hours	03 Hours per week

Assessment Approach

Total Assessment based on final examination

Theory	100 Marks
Practical / Viva	100 Marks

Reference Books.

HTML 4.0 Millennium Edition	E. Stephen Mack & Janan Platt
CSS (Cascading Style Sheet)	Any Reference Book that cover described topics
PHP	Any Reference Book that cover described topics

❖ Web Designing & Development
(Course Framework)

HTML (Hyper Text Markup Language)

- HTML Introduction
- HTML Editor/Page Layout.
- Web Writing & Typography.
- Browsers (Internet Explorer &NetScape Navigator)
- Image Embedding & Image Mapping.
- Text formatting
- Commands of HTML
- HTML Basic
- HTML Elements
- HTML Attributes
- HTML Headings
- HTML Paragraphs
- HTML Formatting
- HTML Quotations
- HTML Computer code
- HTML Comments
- HTML Links
- HTML Images
- HTML Tables
- Table/Nested Tables.
- HTML Lists
- HTML Blocks
- HTML Classes
- HTML Color Names
- HTML Color Groups
- HTML Color Shades
- Form.
- HTML Forms
- HTML Form Elements
- HTML Input Types
- HTML Input Attributes
- HTML Media
- HTML Video
- HTML Audio
- HTML Plug-ins
- HTML YouTube
- Frame.
- Embed Sound & Movie on web page.

CSS

- CSS Introduction
    - Introducing CSS
    - Understanding CSS Placement
    - Using Internal and External Style sheets
    - Creating Base Styles
    - Examining a completely Styled Page
- Using CSS
    - Using Style Attribute
    - Using Style Tag
    - Selecting Code with Class Selector and ID Selector
    - Selecting Behavior with Pseudo Selector
- Formatting Text
    - Choosing Fonts
    - Changing Text Size
    - Modifying Font Attribute
- Formatting Images
    - Creating and formatting Images Boarders
    - Wrapping Text Around Images
    - Understanding margin and padding
- Colors and Backgrounds
    - Using color properties and values
    - Using Background color and values
    - Using Background Images
    - Using Background Image Style Attributes
- Boarders
    - Using the Border Properties
    - Modifying Border Styles
- Formatting Links
    - Formatting links using pseudo-selectors
    - Using text decoration to Show links
- Positioning
    - Positioning Content using Absolute Positioning
    - Understanding the Position: Relative Property
    - Positioning Content using Float Properties
    - Layering Content with Z-Index
- Creating a Website from Scratch
    - Slicing the designed Website

- Creating Website Using HTML and CSS

- Publishing Your Website
  - Understanding Cpanel
  - Upload Website Using FTP

PHP

- PHP Introduction
- PHP Install
- PHP Syntax
- PHP Variables
- PHP Echo / Print
- PHP Data Types
- PHP Strings
- PHP Constants
- PHP Operators
- PHP if…Else….Elseif
- PHP While Loops
- PHP for Loops
- PHP Functions
- PHP Arrays
- PHP Sorting Arrays
- PHP FORMS
- PHP form Handling
- PHP Form Validation
- PHP Form Required
- PHP Form URL/E-mail
- PHP Form Complete
- PHP Data and Time
- PHP Include
- PHP File Open/Read
- PHP File Create/Write
- PHP File Upload
- PHP Cookies
- PHP Sessions
- PHP Filters
- PHP error Handling
- PHP Exception

Diploma in Information Technology (DIT)
Semester – I

SUMMARY

Course Title:	**C Programming**		
Objective	To introduce students with conventional programming structures as well as Object Oriented Programming Concept		
Course Duration	Theory	40 Hours	02 Hours per week
	Practical / Lab.	60 Hours	03 Hours per week
Assessment Approach	Total Assessment based on final examination		
Theory	100 Marks		
Practical / Viva	100 Marks		

Reference Books.

Turbo C/C++	Robert Lafore
The Waite Group's Turbo C/ C++ Bible	Naba Barkakati

❖ C PROGRAMMING
❖ (Course Framework)

Introduction

- Introduction to Programming Language
- Steps of Programming & Flow Charts
- Introduction to C Language
- IDE of Turbo C
- Setting IDE options
- Basic Structure of C Language Programming

Data Types in C Language

- Char, long, int;
- Int / short int
- Float, long double, double
- Singed & unsigned
- Types of variable
- Declaration of Variables
- Assign values to the variable

Operators

Arithmetic	Escape Sequence
Logical	Address Operator
Relational	Format Specifier
Assignment	Increscent Decrement

Header Files & Basic Input Output Operations

Concept of Header File
Preprocessor Directives (#)
Basic Input Output operation Using Print() & scanf () functions
Gotoxy() function

- Basic I/O Operations
- Function

Control Structure

Condition Structure
If, if-else, switch
For-loop, while-loop, do-while-loop
Break & continue statement

User Define Functions

- Concept of UDF functions
- Four types of UDF functions

    - Declaration of Functions prototype
    - Function definition, Function calling

Array

- Definition, Declaration
- Array Initialization
- Elements /Subscript Number /Index
- Retiring to individual Elements of an array

Macros

- Introduction
- Macro declaration and Calling

String & IO Manipulation Functions

- All Functions of String
- Date And Time Functions
- Miscellaneous Functions

Introduction to Graphics

- setcolor(),setbkcolor(),line()rectangle() etc

Any Outstanding topics

- Course review
- Project

Diploma in Information Technology (DIT)
Semester – I

SUMMARY

Course Title: **Operating System**

Objectives

To give solid background about Operating System, since it is the basis of the modern Tools and Technology, adopted worldwide.

To understand the Network Operating System concept.

To understand the role of Network Operating System in the field of IT.

To give knowledge of Microsoft Standard Networking that is being used in the every country of the world. Students will be aware the international certificating.

Course Duration	Theory	40 Hours	02 Hours per week
	Practical / Lab.	60 Hours	03 Hours per week

Assessment Approach Total assessment based on final examination 100 Marks

Theory

Practical / Viva 100 Marks

Reference Books.

Any Reference book that covered the related topics.

Operating System

- System Software
- Examples of System Software
- Overview of Operating System
- Operating System Functions
- Types of Operating Systems
- Classification of Operating System
- Operating systems for personal computers and servers
- Operating systems for mobile phones
- Operating systems for larger computers
- Utility programs
- The future of operating systems

DOS (Disk Operating System)

- Overview of Microsoft Disk Operating System (DOS)
- Types of DOS Commands
- Internal Commands
- External Commands

Microsoft Windows 10

- Introduction to Windows 95, 98, 2000, Window 2003, Window 7, Window 8.1 & Windows 10.
- Difference b/w DOS & Windows
- Introduction to Window 10
- Windows 95, 98, 2000, Window 2003, Window 7, Window 8.1 & Windows 10 Desktop environment
- Window Explorer
- Windows Accessories
- Desktop properties
- Task Bar properties
- Start Menu Properties
- Control Panel
- Operating System Features
    - Features and services of Operating system
    - Managing Storage media
    - Providing a User Interface
    - Managing Computer Resources
    - Managing files
    - Managing Tasks
    - Common operating system in Microsoft Environment
- Utility Programs
    - What are Utility Programs?
    - Types of Utility programs
    - Backup
    - De-fragmentation
    - Disk repair

- Virus protection
- Data compression

Semester –II
Duration: 6 Months (500 Hours) Total Marks 900

S.#	Subject	Total Hours	Theory (Hours)	Practical (Hours)	External/Board Marks	Internal Marks (Attendance, Assignments, Presentations)	Total Marks
01.	**Data Communication & Networking.**	**100**	40	60	**80 + 80 (Th +Viva)**	**20+20**	**100 + 100 (Th +Viva)**
02	**Core Hardware & PC Maintenance (A+)**	**100**	40	60	**80 + 80 (Th +Viva)**	**20+20**	**100 + 100 (Th + Viva)**
03.	**Desktop Publishing (Adobe Photoshop CS, Corel Draw, Inpage)**	**100**	40	60	**80 + 80 (Th +Viva)**	**20+20**	**100 + 100 (Th +Viva)**
04.	**Database (MS Access & SQL / My Sql)**	**100**	40	60	**80 + 80 (Th +Viva)**	**20+20**	**100 + 100 (Th +Viva)**
05.	**Live Project**	**60**	-	60	**80 (Viva)**	**20**	**100 (Viva)**
TOTAL		**500**	**200**	**300**	**720**	**180**	**900**

Diploma in Information Technology (DIT)
Semester – II

SUMMARY

Course Title: **Data Communication & Networking**

Objective The course outline has been described in detail and in more appropriate way covering different area of Data Communication & Networking.

To enhance the Data communication & Networking in the field of Computer Networking/ ICT .

Course Duration	Theory	40 Hours	02 Hours per week
	Practical / Lab.	60 Hours	03 Hours per week

Assessment Approach

Total Assessment based on final examination

Theory	100 Marks
Practical / Viva	100 Marks

Reference Books.

MCSE: Networking Essentials	James Chellis, Charles Perkins, Matthew Strebe
Data Communication	Any Reference Book that cover described topics

❖ Data Communication & Networking
(Course Framework)

Data Communication

- Introduction of Data Communication.
- OSI Model
- Basic Elements of Communication.
    - Sender,
    - Medium
    - Receiver,
    - Protocols
    - Hardware & Software
- Types of Data Communication
    - Analog Data Communication
    - Digital Data Communication
- Data Transmission Modes.
    - Simplex Modes
    - Half-Duplex Mode
    - Full- Duplex Mode
- Communication Channel
- Types of Communication Channel
- Advantages & Disadvantage of Guided and Unguided Media
- Communication Devices
- Modem
- Types of Modem
    - External Mode
    - Internal Mode
    - Wireless Mode
- Network Interface Card
- Bridge
- Router
- Gateway

- Repeater
- HUB & Switch
- Types of HUBS

Networks

- **Computer Network**
    - **Server Computer & Terminal**
    - **Advantages of Computer Network**
    - **Disadvantages of Computer Network**
- **<u>Types of Computer Networks</u>**
    - LAN (Advantages & Disadvantages)
    - MAN (Advantages & Disadvantages)
    - WAN (Advantages & Disadvantages)
    - GAN (Advantages & Disadvantages)
- Difference Between LAN, MAN & WAN
- Network Topologies
    - BUS Topology
    - Star Topology
    - Ring Topology
    - Mesh Topology
    - Tree Topology
- Advantages & Disadvantages of BUS, STAR, RING,MESH,TREE Topologies.
- Use of Networks
- How Networks are Structured
- Using Digital Connection
- Broad Band Connection
- DSL, Cable Modem Connection
- Wireless Connection
- RJ 45
- Colors measurement of RJ 45 Connectors
- Working with Cables & Connectors

Diploma in Information Technology (DIT)
Semester – II

SUMMARY

Course Title Core Hardware & PC Maintenance (A+)

Objective This Course has been designed for reducing the dependency of hardware engineering and student should be able to manage, assemble, de-assemble, installation and troubleshooting of hardware.

Course Duration

Theory	Practical / Lab.
20 Hours (02 Hours per week)	40 Hours (03 Hours per week)

Assessment Approach

Total Assessment based on final examination

Theory	Practical / Viva
50 Marks	50 Marks

Reference Books.

A+ Certification by Exam Guide 3rd Edition, Michael Meyers

A+ Certification by Core Hardware | Operating System, Syngress

- **Core Hardware & PC Maintenance (A+)**
  (Course Framework)

Diploma in Information Technology (DIT)

- **The overview of PC**
  - CPU, RAM, Motherboard, Power Supply, ROM, Sound, VGA Card, Network Card, Modems, DB Connector, Din connector, RJ Connector, BNC Connector, Audio Connector, USB Connector, Fire connectors.
- **Microprocessor**
  - External Data Bus, Registers, Memory.
- **CPU Packages**
  - 8086 CPU Family, 80286 CPU Family, 80386 CPU Family, 80486 CPU Family, Pentium CPU Family, Later Pentium-Class CPUs, Xeon Processors, Pentium 4
- **RAM**
  - SDRAM, DRAM, SIMMs, DIMMs
- **Motherboard & BIOS**
  - BIOS, Last BIOS Duty, The Boot Processor
- **Power Supply**
  - Power Supply, Power Connections, Motherboard Power, Power Switch, Connection to Peripherals, Power supply Fan, Uninterruptible Power Supply (UPS)
- **Hard Drive**
  - Inside Hard Drive, Hard Drive Interface to the PC, Partitioning and formatting, The Capacity Issue, Fixing Hard Drives.
- **DOS**
  - Every Computer needs an Operating Systems, DOS Structure: Three main Files, Using function Keys, DOS Editor, DOS Editor, DOS in the Window World, Communication with Hardware.
- **Window 8 Vs Window 10**
  - Window Installation, Window Boot Process, The Registry, FAT 32, 64, Install Problems Troubleshooting Window 8, 10.
- **DVD Media**
  - DVD-ROM, DVD-R, DVD-RW, Music DVD, Installing CD Media & DVD Media Drive, Burning Issue.
- **Sound**
  - Types of Sound, Troubleshooting Sound, 3D Sound on PC
- **Video**
  - Video Monitor, The Video Card, Resolution, Color Depth, and Memory Requirements, 3-d Graphics
- **Modem Vs DSL**
  - Converting Serial Data to PC Data, File Transfer Protocols, Modem Command, Telephone Lines, Installing & Trouble Shooting of Mode.
- **Portable PCs**
  - History, Laptops, Mobile Technologies, Power Management
- **Printers**
  - Impact Printer, Ink Jet Printer, Laser Printer, Parallel Communication, Printer Problem.
- **Network Card.**
  - Hardware Protocol, Network Protocol, Network Operating System, Internet Connection Sharing, Network Card Problem.
- Networks
- Types of Networks
- Network Topologies
- Network Cabling
- Cables and Connectors
- Network Interface Card
- Preventive Maintenance
- Fragmentation
- Scandisk
- Disassembling and Reassembling Computer

Semester – II

SUMMARY

Course Title: **Desktop Publishing**

Objective The course outline has been described in detail and in more appropriate way covering different area of Composing/publishing.

To present a broad overview of designing & composing software for composing & printing.

To work with different types of images (vector images & bitmap images) by current update front hand tools.

To enhance the business in the field of printing and E-Commerce.

Course Duration	Theory	40 Hours	02 Hours per week
	Practical / Lab.	60 Hours	03 Hours per week

Assessment Approach

Total Assessment based on final examination

Theory	100 Marks
Practical / Viva	100 Marks

Reference Books.

Adobe Photoshop 7.0	Any Reference Book that cover described topics
Coreldraw	As above
Inpage	As above

❖ DESKTOP PUBLISHING (Course Framework)

Adobe Photoshop CS

- **Introduction to Types of graphics.**
  - Vector Image
  - Bitmap / Raster Images
- **Layers concept and working with layers**
  - Copying & Deleting layers
  - Applying different effects on layers.
- **Working with different tools and their options.**
  - Moving Tools/ Marquee Tool/ Magic Tool
  - Brushing Tool/ Gradient Tool/ Blur Tool.
  - Eye dropper Tool/ Eraser Tool/ Edit & standard Mode
  - Cropping image, Embedding
  - Lasso Tool
  - Clone Stamp tool
  - Pattern Stamp Tool
  - Type Tool
  - Pen Tool.
- **Working with Filters.**
  - Dissolve / Screen
  - Hard light / Darken / Hue
  - Noise / Artistic
  - Distort / Render / Blur / Texture
- **Image Setting**
  - Import & Export
  - Working with mode
  - Image Adjustment
  - Working with Liquefy
  - Save images in different formats

CorelDraw.

- Introduction to CorelDraw.
- Working with Paths.
- Working with Tools.
- Working with Layers.
- Creating Master Page
- Importing & Exporting Files
- Converting Vector Graphics to Bitmap Images.
- Grouping Objects
- Arranging Objects
- Adding object
- Making Tracing for four colors jobs
- Adding names & notes to object
- Transforming names & notes to object
- Printing

Inpage/PPage (Urdu Word Processing)

- Introduction to Inpage

- Application Preferences
- Document Preferences
- Typographic Preferences
- Story Editor Preferences
- Keyboard Preferences
- Inpage Tools
- Menus
- Table
- Printing

SUMMARY

Course Title: DATABASES

OBJECTIVE

To introduce the basic knowledge of database management systems.

How to Create, Plan & Manage Databases

What are the Database?

To enable the justification of structured and methodical approach to the analysis and design of computer based systems.

Course Duration

Theory	40 Hours	Three hours per week
Practical/Lab	60 Hour	Two hours per week

Assessment Approach

Total assessment based on final Examination.

Theory	50 Marks
Practical/Viva	100 Marks

Reference Book(s):

1	MS Access	Any reference book that cover the topic
2.	The Complete Reference SQL	**James R. Groff & Paul N. Wein Berg**
3.	My Sql	Any reference book that cover the topic

❖ **Database (MS Access & SQL / My Sql)**

Course Framework

Database

- Overview of Database.
- Types of Database
- DBMS & RDBMS
- Difference b/w MS Access, SQL, My Sql.

Organization of Data (Concepts)

- Introduction to Files and Database storage
- Types of Database Organization
- Network
- Tree
- Relational Database Management System (RDBMS)

Microsoft Access Database

- Introduction to MS Access.
- Different Versions of MS Access
- Features of MS Access
- Working with Menus & Icons
- Customize Menu & Toolbars.
  - Save, Undo, Redo, Print preview.
- File
  - Info, New, Open Save, Save as, Print, Close, Account, Options.
- Home
  - Views, Clipboard, Sort & Filter, Records, Find, Text Formatting
- Create
  - Templates, Tables, Queries, Forms, Reports, Macros & Code.
- External Data
  - Import & Link, Export
- Database Tools
  - Tools, Macro, Relationship, Analyze, Move Data, Add-Ins.
- Fields
  - Views, Add & Delete, Properties, Formatting, Field Validation.
- Table
  - Properties, Before Events, After Events, Named Macros, Relationships.
  - All Access Objects.

SQL/My Sql:

- Client Server Database Computing
- Installation
- Client Tools & Database Server
- DDL Definition
- Create table, views, snapshot
- Drop Table, Views, snapshot
- Alter table, views, snapshot
- DML Definition
- Select Commands with Syntax
- Insert Commands with Syntax
- Delete Commands with Syntax
- Update Commands with Syntax
- Sql-Server basic Operator
- Functions
- Character, NUMBER, Date/Time, Conversion Functions
- Queries and their types
- Configure the database
- Sql-Server Query analyzer
- Sql-Server client network utility

- Backup and Recovery operation
- Import & Export Tools.

Detailed Course Outline

Course Title: **Live Project**

- **OBJECTIVE**

- A project will be given that involves analyzing a case study of any no organization seeking help to computerize its whole operations, and after studying of hardware, software, procedures and human ware, recommend the design Information system for that organization.

- This project gives. The student an ultimate confidence to produce themselves Information Technology.

- Project Duration

- Practical/Lab 60 Hour

- **Assessment Approach**

- Total assignment base on final examination
- Practical/Viva 100 Marks