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EXAM CAPSULE

FOR

O LEVEL NIELIT EXAM

INFORMATION TECHNOLOGY TOOLS

AND

NETWORK BASICS

COMPACT. CONCISE. COMPLETE.

Your Quick Guide to Exam Success



Exam Focused
Topic-wise coverage
as per O Level syllabus



Quick Revision
Key points, summaries
& important concepts



Practice Oriented
Solved examples &
practice questions



Real-World Ready
IT tools & networking
use cases



Exam Ready
Important questions
& exam tips



**BASED ON
LATEST SYLLABUS**



**TRUSTED BY
STUDENTS**



**LEARN SMART
SCORE HIGH**



**STEP CLOSER TO
SUCCESS**

INTRODUCTION TO COMPUTER

Explore. Understand. Innovate.

1 COMPUTER AND LATEST IT GADGETS

A computer is an electronic device that accepts data, processes it, stores it and produces useful information.



These gadgets make our work faster, smarter and more convenient.

2 EVOLUTION OF COMPUTERS & ITS APPLICATIONS

- 1st Generation (1940s-1950s)
Vacuum Tubes
- 2nd Generation (1950s-1960s)
Transistors
- 3rd Generation (1960s-1970s)
Integrated Circuits
- 4th Generation (1970s-Present)
Microprocessors
- 5th Generation (Present & Beyond)
AI & Advanced Computing

Applications in: Education, Business, Healthcare, Banking, Communication, Entertainment, Science & more.

3 IT GADGETS AND THEIR APPLICATIONS

	Smartphone	Communication, Internet, Entertainment
	Smart Watch	Health Tracking, Notifications, Fitness
	Tablet	Learning, Browsing, Entertainment
	Wireless Earbuds	Music, Calls, Online Meetings
	DSLR Camera	Photography, Video Recording
	Smart TV	Entertainment, Streaming, Internet Access
	Cloud Storage	Data Backup, File Sharing, Access Anywhere

4 BASICS OF HARDWARE AND SOFTWARE

Hardware: Physical components of a computer system.



Software: Programs and instructions that run on hardware.



Hardware is the body,
Software is the soul of a computer.

5 CENTRAL PROCESSING UNIT (CPU)



- The CPU is the brain of the computer.
- It performs all calculations and controls all operations.
- Main parts: ALU, CU, Registers

Speed of CPU is measured in GHz.

6 INPUT DEVICES



Input devices are used to enter data and instructions into the computer.

7 OUTPUT DEVICES



Output devices display or present the processed information.

8 COMPUTER MEMORY & STORAGE

Primary Memory



Secondary Storage



Memory stores data temporarily,
Storage keeps data permanently.

9 APPLICATION SOFTWARE



Application software helps users to perform specific tasks.

10 SYSTEMS SOFTWARE

It manages computer hardware and provides a platform for application software.



Examples: Operating Systems

11 UTILITY SOFTWARE

It maintains, protects and optimizes the computer system.



Examples: Antivirus, Disk Cleanup, Backup Tools

12 OPEN SOURCE AND PROPRIETARY SOFTWARE

Open Source Software
Free to use, modify and distribute.



Linux LibreOffice Firefox

Proprietary Software
Paid and licensed for use.



Windows MS Office Adobe Photoshop

13 MOBILE APPS

Mobile apps are software applications installed on smartphones and tablets to perform various tasks.



Mobile apps make our life easier, faster and more connected.



COMPUTERS ARE EVERYWHERE – LEARN TODAY, LEAD TOMORROW!



INTRODUCTION TO OPERATING SYSTEM

An operating system is system software that manages computer hardware, software resources and provides common services for computer programs.

1 OPERATING SYSTEM (OS)

An Operating System is a system software that acts as an interface between the user and computer hardware. It manages all resources of the computer and provides services for running applications efficiently.

Main Functions:

- Provides user interface
- Manages hardware and software resources
- Manages files, folders and storage
- Handles input/output devices
- Ensures security and data protection
- Allows multitasking (running many programs at once)
- Acts as a platform for applications

2 BASICS OF OPERATING SYSTEM

An OS performs basic tasks and provides an environment for programs to run.

Component	Description
Kernel	Core part that manages CPU, memory and devices.
User Interface	Allows user to interact with the system.
File System	Organizes, stores and manages data in files and folders.
Device Management	Controls input/output devices like keyboard, mouse, printer, etc.
Memory Management	Allocates memory to programs and processes.
Process Management	Runs, schedules and terminates programs.
Security	Protects data and controls access.
Utilities	Provides additional tools like backup, antivirus, etc.

3 OPERATING SYSTEMS FOR DESKTOP AND LAPTOP



Windows
(Microsoft)



macOS
(Apple)



Linux
(Open Source)

Windows	Most popular OS for desktops and laptops.
macOS	Used in Apple computers. Known for stability and security.
Linux	Open source OS. Examples: Ubuntu, Fedora, Debian, Mint, etc.

4 OPERATING SYSTEMS FOR MOBILE PHONE AND TABLETS



Android
(Google)

iOS

iOS
(Apple)

Android	Most widely used OS for smartphones and tablets.
iOS	Used in iPhone and iPad. Known for security and smooth performance.

5 USER INTERFACE FOR DESKTOP AND LAPTOP

A User Interface (UI) allows users to interact with the computer easily.

Types of UI:

- Graphical User Interface (GUI) – Uses icons, windows, menus, pointer.
- Command Line Interface (CLI) – Uses text commands.



6 TASK BAR

Start Button

Opens Start Menu

Pinned Apps

Shortcut to your favorite apps

System Tray

Shows background icons and system status

Open Applications

Shows running applications

Clock / Date

Displays current time and date



7 ICONS & SHORTCUTS

- Icons represent files, folders, applications or system items.
- Shortcuts are small icons that provide quick access to files or programs.
- Right click on desktop → New → Shortcut to create a new shortcut.



8 RUNNING AN APPLICATION

- Click on Start Button.
- Select the application from the menu.
- Or double click on the desktop shortcut icon.
- The application will open in a window.



9 OPERATING SYSTEM SIMPLE SETTING

- Settings help to customize the system.
- Access from: Start → Settings
- You can change: System, Devices, Network, Personalization, Accounts, Time & Language, Update & Security, etc.



10 USING MOUSE AND CHANGING ITS PROPERTIES



Change Mouse Properties:

1. Open Control Panel.
2. Click on Mouse.
3. Adjust:
 - Button configuration
 - Pointer options
 - Wheel settings
 - Pointer (cursor) appearance

11 CHANGING SYSTEM DATE AND TIME

1. Right click on clock in taskbar.
2. Select Adjust date/time.
3. Set correct date, time, time zone.
4. Click OK or Apply.



12 CHANGING DISPLAY PROPERTIES

1. Right click on desktop → Display settings.
2. Adjust:
 - Resolution
 - Orientation
 - Brightness
 - Scale and layout
3. Click Apply to save changes.



13 TO ADD OR REMOVE PROGRAM AND ITS FEATURES

Add (Install) Program:

1. Open Settings → Apps → Apps & features.
2. Click on Get more apps (Microsoft Store) or run setup file.
3. Follow the instructions to install.

Remove (Uninstall) Program:

1. Open Settings → Apps → Apps & features.
2. Select the program.
3. Click Uninstall.
4. Follow the instructions to remove.

14 ADDING, REMOVING & SHARING PRINTERS

Add Printer:

1. Open Settings → Devices → Printers & scanners.
2. Click Add a printer or scanner.
3. Select the printer and follow instructions.



Remove Printer:

1. Select the printer.
2. Click Remove device.

Sharing Printer:

1. Right click printer → Printer properties.
2. Go to Sharing tab.
3. Check "Share this printer".
4. Provide a share name. Database \$ share name.

15 FILE AND FOLDER MANAGEMENT

File Operations:

- Create: Right click → New
- Rename: Right click → Rename
- Copy: Ctrl + C
- Paste: Ctrl + V
- Cut: Ctrl + X
- Delete: Del key or Right click → Delete

Folder Operations:

- Create new folder
- Rename folder
- Move / Copy folder
- Delete folder
- Share folder

File Path Example:

C:\Users\User\Documents\Project\file.docx



16 TYPES OF FILE EXTENSIONS

A file extension is the last part of a file name after the dot (.). It shows the file type and the program used to open it.

Category	Extensions	Description	Category	Extensions	Description
Text Files	.txt, .log, .docx	Contain plain text or documents	Compressed Files	.zip, .rar, .7z	Compressed or archived files
Image Files	.jpg, .jpeg, .png, .gif, .bmp	Picture files	Executable Files	.exe, .msi, .bat	Programs or installation files
Audio Files	.mp3, .wav, .aac, .wma	Sound or music files	Web Files	.html, .css, .js, .php	Web page or script files
Video Files	.mp4, .avi, .mkv, .mov	Video or movie files	Data Files	.db, .sql, .csv, .dat	Database or data files
Document Files	.pdf, .doc, .docx, .xls, .xlsx, .ppt, .pptx	Office documents	System Files	.sys, .dll, .ini	System configuration or library files





WORD PROCESSING

Syllabus Revision 5.1 for 'O' Level (IT) Under DOEACC Scheme

What is Word Processing?
Word Processing is the use of a computer to create, edit, format, store and print documents.

1 WORD PROCESSING BASICS

• Word processing is a program that allows you to type, edit, format and print any kind of text-based document.

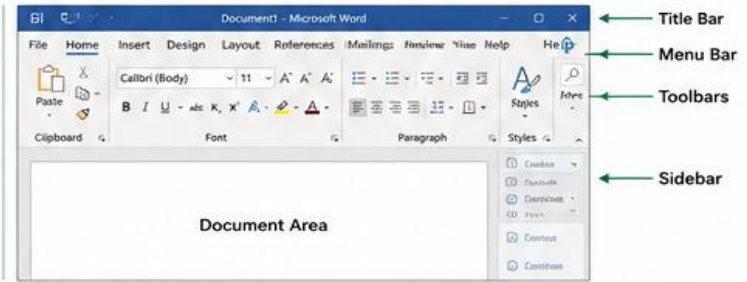
Examples of Word Processing Packages:

- Microsoft Word
- LibreOffice Writer
- OpenOffice Writer
- WPS Writer

2 OPENING WORD PROCESSING PACKAGE

Steps to Open (Example: MS Word)

1. Click on Start button (Windows).
2. Select All Programs (or All Apps).
3. Select Microsoft Office (or MS Office).
4. Click on MS Word.



3 CREATING, OPENING, SAVING & CLOSING DOCUMENTS

Creating a New Document

File → New → Blank Document

Opening a Document

File → Open → Select file → Open

Save a Document

File → Save (or Ctrl + S)

Save As

File → Save As → Choose location → Enter file name → Save

Close a Document

File → Close (or Ctrl + W)

Exit Word

File → Exit (or Alt + F4)

Using The Help

Press F1 or Click Help → Help Topics



4 PAGE SETUP & PAGE LAYOUT

• **Page Setup:** Set page size, orientation, margins etc. (Layout → Page Setup)

• **Page Layout:** Set columns, breaks, indents etc.

• **Borders:** Add border to page or paragraph.

• **Watermark:** Add text or image behind the document.

• **Print Preview:** View document before printing. (File → Print → Print Preview)

• **Printing:** File → Print → Select printer → Print

• **PDF File:** File → Save As → Select PDF → Save to create PDF file.



5 TEXT CREATION AND MANIPULATION

• **Document Creation:** Type text in the document area.

• **Editing Text:** Insert, delete or modify text.

• **Text Selection:** Select text using mouse or keyboard (Shift + Arrow).

• **Cut, Copy and Paste:**

Cut (Ctrl + X), Copy (Ctrl + C), Paste (Ctrl + V)

• **Font:** Change font type.

• **Color:** Change text color.

• **Style:** Bold (Ctrl + B), Italic (Ctrl + I), Underline (Ctrl + U).

• **Size:** Change font size.

• **Alignment of Text:** Left, Center, Right, Justify.



• **Undo & Redo:** Undo (Ctrl + Z), Redo (Ctrl + Y)

• **AutoCorrect:** Automatically corrects common typing errors.

• **Spelling & Grammar:** Check spelling and grammar of text.

• **Find and Replace:** Find text (Ctrl + F), Replace text (Ctrl + H)

6 FORMATTING THE TEXT

• Change font, size, color and style.

• Use Bold, Italic, Underline, Strikethrough, Superscript, Subscript, Highlight.

• **Change case:**

- Sentence case
- lowercase
- UPPERCASE
- Capitalize Each Word
- TOGGLE cASE



• **Clear Formatting:** Remove all formatting.



7 PARAGRAPH FORMATTING

• **Paragraph Indentation:**

- Left Indent
- Right Indent
- First Line Indent
- Hanging Indent



• **Bullets and Numbering:** Create bulleted or numbered lists.



• **Line and Paragraph Spacing:** Adjust spacing between lines and paragraphs.

• **Shading:** Add background color to paragraph.

• **Borders:** Add border around paragraph.

8 HEADER & FOOTER

• **Header:** Text or image that appears at the top of each page.

• **Footer:** Text or image that appears at the bottom of each page.

• **Steps:**

1. Insert → Header (or Footer)
2. Choose a style or Edit Header/Footer
3. Type text or insert fields (Page No., Date, etc.)
4. Click Close Header and Footer



9 TABLE MANIPULATION

• **Insert & Draw Table:** Insert → Table → Select rows & columns or Draw Table.

• **Changing Cell Width and Height:** Drag the cell borders.

• **Alignment of Text in Cell:** Use alignment options (Left, Center, Right, Justify, Top, Middle, Bottom).

• **Delete / Insertion of Row and Column:**

Right click → Insert/Delete Rows or Columns.

• **Merging & Splitting of Cells:**

Merge Cells, Split Cells, Split Table.

• **Border and Shading:** Add border and background color to cells or table.



10 MAIL MERGE

Mail Merge helps to create multiple documents (such as letters, envelopes, labels) with the same format but different data.

Steps:

1. Prepare the main document.
2. Create or connect data source (list).
3. Start Mail Merge (Mailings → Start Mail Merge).
4. Insert Merge Fields.
5. Preview Results.
6. Finish & Merge (Print or Edit individual documents).



11 TABLE OF CONTENTS, INDEXES & COMMENTS

• **Table of Contents:** Automatically creates list of headings with page numbers. (References → Table of Contents)



• **Indexes:** Create alphabetical list of terms with page numbers. (References → Insert Index)



• **Adding Comments:** Review → New Comment. Used to add notes or suggestions in document.

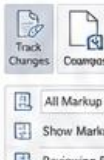


12 TRACKING CHANGES

Tracking Changes helps in reviewing and collaborating on a document.

Steps:

1. Review → Track Changes (On)
2. Make changes to the document.
3. Changes will be highlighted.
4. Accept or Reject changes.
5. Turn off Track Changes after review.



13 MACROS

Macros are commands or series of commands that you group together to automate a task.

Steps to use Macros:

1. View → Macros → Record Macro
2. Perform the actions.
3. View → Macros → Stop Recording
4. Run Macro when needed.



QUICK SUMMARY

- ❖ Opening & closing documents
- ❖ Saving & printing
- ❖ Page setup & layout
- ❖ Text creation & editing
- ❖ Formatting text
- ❖ Paragraph formatting
- ❖ Headers & footers
- ❖ Table creation & manipulation
- ❖ Mail merge
- ❖ Table of contents & indexes
- ❖ Comments & tracking changes
- ❖ Macros

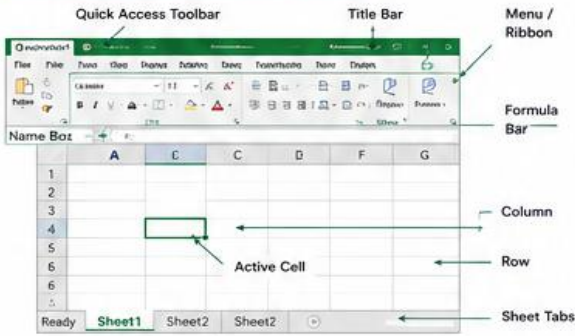


SPREADSHEET

Organize Data • Perform Calculations • Analyze Information • Create Meaningful Reports



1 ELEMENTS OF SPREAD SHEET



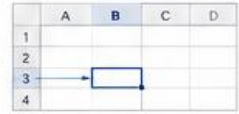
2 CREATING OF SPREAD SHEET

1. Open spreadsheet program (e.g., MS Excel).
2. Click on Blank Workbook.
3. A new workbook opens with default sheets (Sheet1, Sheet2, ...).
4. Enter data in the cells.
5. Save the workbook with a meaningful name.



3 CELL ADDRESS AND ENTERING DATA

- Cell Address: Identified by Column letter and Row number.
Example: B3, C10, AA25



- Entering Data in Cells:

Data Type	Examples
Text	Name, City, Product
Number	25, 1250.75, -10
Date	12-05-2024, 05/12/2024

- Press Enter to move to next cell.

4 PAGE SETUP AND PRINTING

- **Page Setup:** Set margins, orientation (Portrait/Landscape), paper size, header/footer.
- **Printing of Sheet:**
 1. Click File → Print or press Ctrl + P.
 2. Select printer.
 3. Set print range, number of copies.
 4. Click Print.



5 SAVING, OPENING AND CLOSING

- **Saving Spreadsheet:**
 1. Click File → Save or press Ctrl + S.
 2. Choose location, enter file name, click Save.
- **Opening Spreadsheet:**
 1. Click File → Open.
 2. Select file and click Open.
- **Closing Spreadsheet:**
 1. Click File → Close or press Ctrl + W.



6 MANIPULATION OF CELLS & SHEET

- **Modifying / Editing Cell Content:** Click cell, edit in formula bar or directly in cell.
- **Cut, Copy, Paste & Paste Special:**
 - Cut: Ctrl + X
 - Copy: Ctrl + C
 - Paste: Ctrl + V
 - Paste Special: Values, Formats, Formulas, etc.
- **Changing Cell Height and Width:** Drag row or column border or use Home → Format.
- **Inserting Rows/Columns:** Select row/column → Right click → Insert.
- **Deleting Rows/Columns:** Select row/column → Right click → Delete.
- **AutoFill:** Drag fill handle (small square at bottom right of selected cell).
- **Sheet Operations:** Insert, Delete, Rename, Move or Copy sheet.



7 FORMATTING CELLS

- **Font:** Change font type, size, bold, italic, underline, color.
- **Alignment:** Left, Center, Right, Top, Middle, Bottom, Wrap Text, Merge & Center.
- **Style:** Number format (General, Number, Currency, Date, Time, Percentage, etc.).
- **Borders:** Apply borders to cells or range.
- **Shading / Fill Color:** Add background color to cells.



8 SORTING & FILTERING

- **Sorting:**
 - Select data → Data Tab → Sort.
 - Choose column and order (A to Z / Z to A).
- **Filtering:**
 - Select data → Data Tab → Filter.
 - Click drop-down arrow in header → Select criteria.
- **Advanced Filter:**
 - Data Tab → Advanced → Set criteria range, select copy to another location if needed.

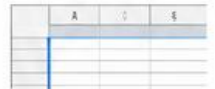


9 FREEZING PANES

Freezing panes keeps rows or columns visible while scrolling.

Steps:

1. Select the row below or column to the right of the area to freeze.
2. View Tab → Freeze Panes.
3. Choose Freeze Panes / Freeze Top Row / Freeze First Column.



10 FORMULAS AND FUNCTIONS

A. USING FORMULAS FOR NUMBERS

Basic Operators

Operator	Meaning
+	Addition
-	Subtraction
*	Multiplication
/	Division
%	Percentage
^	Exponent

Example

- =A1+B1 (Addition)
- =A1-B1 (Subtraction)
- =A1*B1 (Multiplication)
- =A1/B1 (Division)
- =A1^2 (Square of A1)

B. AUTOSUM

- Select range of cells.
- Click AutoSum (Σ) on Home Tab.
- Excel automatically inserts formula.

Example

A	B	Total (A+B)
10	20	=SUM(A2:B2)
15	25	=SUM(A3:B3)
18	30	=SUM(A4:B4)

C. COMMON FUNCTIONS

Function	Use
SUM(range)	Adds numbers in a range
COUNT(range)	Counts cells containing numbers
MAX(range)	Returns largest value
MIN(range)	Returns smallest value
AVERAGE(range)	Returns average of numbers

D. DATABASE FUNCTIONS

Function	Use
DSUM	Adds numbers that meet criteria
DMIN	Finds minimum value that meets criteria
DMAX	Finds maximum value that meets criteria
DCOUNT	Counts numbers that meet criteria
DCOUNTA	Counts non-empty cells that meet criteria

Note: Use Database functions with criteria range and database range.

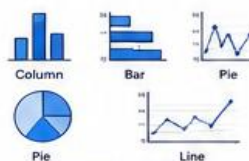
11 WHAT-IF ANALYSIS

Feature	Description
Goal Seek	Find input value to get a desired result.
Scenario Manager	Compare different sets of values.
Data Table	See results of formulas with multiple inputs.

12 PIVOT TABLE & CHARTS

- **Pivot Table:** Summarizes large data sets quickly.
- **Steps:**
 1. Select data → Insert → PivotTable.
 2. Drag fields to Rows, Columns, Values, Filters.
- **Pivot Charts:** Visual representation of Pivot Table data.

Common Chart Types



13 DATA VALIDATION

Data Validation restricts the type of data or values entered in a cell.

Steps:

1. Select cell(s).
2. Data Tab → Data Validation.
3. Choose criteria (Whole number, List, Date, Custom, etc.).
4. Set input message and error alert.



QUICK SUMMARY

- Create, Open, Save and Close Spreadsheet
- Enter and Edit Data in Cells
- Format Cells, Rows, Columns
- Page Setup and Print Worksheets

- Cut, Copy, Paste & Paste Special
- Insert/Delete Rows, Columns
- AutoFill for Series
- Sort, Filter and Advanced Filter
- Freeze Panes for Better View

- Use Formulas for Calculations
- AutoSum for Quick Calculations
- Use Functions (SUM, COUNT, MAX, MIN, AVERAGE)

- Use Database Functions (DSUM, DMIN, DMAX, DCOUNT, DCOUNTA)
- What-if Analysis Tools
- Create Pivot Tables and Charts

- Apply Data Validation for Accurate Data Entry





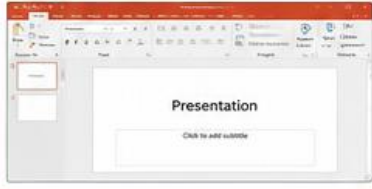
PRESENTATION

Create • Design • Present • Impress



1 CREATION OF PRESENTATION

- A presentation is a collection of slides that conveys information, ideas or a message to an audience.
- It can include text, tables, pictures, charts, sounds, movies and other objects.



2 CREATING A PRESENTATION

Using a Template

1. File → New.
2. Choose a template from available options.
3. Click Create.



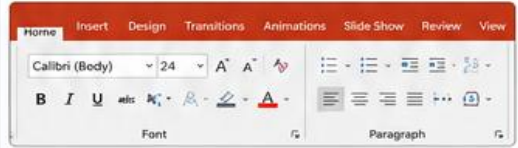
Creating a Blank Presentation

1. File → New.
2. Select Blank Presentation.
3. Click Create.



3 INSERTING & EDITING TEXT ON SLIDES

- Click on the text placeholder and type text.
- Use Home tab to format text (Font, Size, Color, Bold, Italic, Alignment, Bullets, etc.).
- To edit: Click in the text box and make changes.



4 INSERTING AND DELETING SLIDES

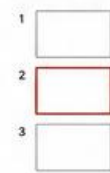
Inserting Slides

- Home tab → New Slide
- Choose slide layout.



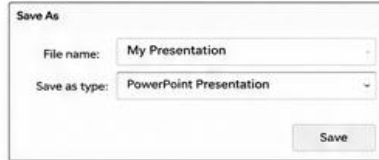
Deleting Slides

- Select the slide thumbnail.
- Press Delete key or right click and choose Delete Slide.



5 SAVING A PRESENTATION

- File → Save: Save with the same name.
- File → Save As: Save with a new name or in a different location.



6 MANIPULATING SLIDES

- Reorder Slides: Drag and drop slide thumbnails.
- Duplicate Slides: Right click → Duplicate Slide.
- Hide Slides: Right click → Hide Slide.
- Layout: Home tab → Layout → Choose layout.

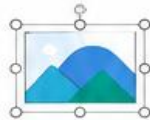


7 INSERTING OBJECTS

Object	How to Insert
Table	Insert tab → Table → Choose rows & columns.
Picture	Insert tab → Pictures → This Device (or Online Pictures).
Shapes / Icons / SmartArt	Insert tab → Shapes / Icons / SmartArt → Choose item.
Chart	Insert tab → Chart → Choose type.
Text Box	Insert tab → Text Box → Draw on slide.
WordArt	Insert tab → WordArt → Choose style.

8 RESIZING AND SCALING AN OBJECT

- Select the object.
- Drag sizing handles to resize.
- For precise size: Right click → Size and Position → Enter Height & Width.



9 CREATING & USING MASTER SLIDE

Master Slide helps to apply common design (theme, fonts, logos, footers, etc.) to all slides.

Steps:

1. View tab → Slide Master.
2. Make changes to the master slide (Background, Fonts, Colors, Logos, etc.).
3. Close Master View.



10 PRESENTATION OF SLIDES

A presentation is shown in Slide Show view.

- Choose a Set Up for Presentation
- Slide Show tab → Set Up Slide Show
- Choose options:
 - Presented by a speaker (full screen)
 - Browsed by an individual (window)
 - Show options (loop, timings, narration, etc.)



11 RUNNING A SLIDE SHOW

- Slide Show tab → From Beginning (F5) to start from the first slide.
- From Current Slide to start from the selected slide.

During Slide Show

- Click mouse / press Enter → Next slide
- Right click → See all options
- Esc → End Slide Show



12 TRANSITION AND SLIDE TIMINGS

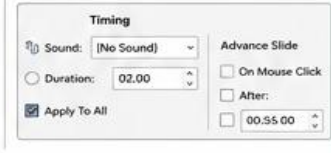
Transition

- Select the slide.
- Transitions tab → Choose transition effect.
- Adjust options: Sound, Duration, Apply To All.



Slide Timings

- Slide Show tab → Set Up
- Use timings, if present
- Set time for each slide
- Apply To All.



13 AUTOMATING A SLIDE SHOW

Add timings, narrations and transitions to run the slide show automatically.

Steps:

1. Add transitions and set timings.
2. Slide Show tab → Record Slide Show (Record timings and narrations).
3. Save the presentation.
4. Run Slide Show.



14 PROVIDING AESTHETICS TO SLIDES

Enhancing Text Presentation

- Use appropriate fonts.
- Adjust size, color and style.
- Apply effects like Shadow, Reflection, Glow.



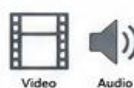
Working with Color and Line Style

- Design tab → Colors (Choose theme colors).
- Use Shape Outline for line style, color & weight.
- Use Shape Fill for background color.



Adding Movie and Sound

- Insert tab → Video / Audio → This Device or Online.
- Place on slide and set playback options.



Adding Headers, Footers and Notes

- Insert tab → Header & Footer
- Add slide number, date, footer text.
- Use Notes pane to add speaker notes.



15 PRINTING SLIDES AND HANDOUTS

Print slides, handouts or notes as per need.

Steps:

1. File → Print.
2. Choose print option:
 - Full Page Slides
 - Notes Pages
 - Handouts (2, 3, 4, 6, 9 slides/page)
 - Outline View



QUICK SUMMARY

- Create presentations using templates or blank layouts
- Insert and format text, tables, pictures and other objects
- Manage slides: Insert, delete, duplicate, reorder

- Apply themes using Master Slide
- Set up and run slide shows
- Add transitions, timings and automate presentations

- Enhance slides with text effects, colors, lines, movies and sounds
- Add headers, footers, notes
- Print slides, handouts and notes

Master Presentations - Communicate Ideas, Engage Audience, Leave an Impression!





INTRODUCTION TO INTERNET AND WWW

Complete Topics Guide

1 BASIC OF COMPUTER NETWORKS

A computer network is a collection of two or more computers and devices connected together to share data, resources and information.

Components of a Network

- Server
- Client/Workstation
- Network Interface Card (NIC)
- Transmission Media (Cable/Wireless)
- Network Devices (Hub, Switch, Router etc.)
- Protocols (Rules for communication)



2 LOCAL AREA NETWORK (LAN)

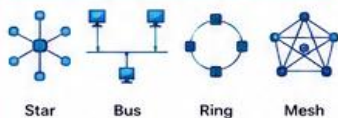
A LAN covers a small geographical area like a home, office, school or building.

Features

- High speed
- Privately owned
- Connects computers and devices in a limited area
- Low cost

Example : Network in an office, computer lab etc.

LAN Topology Examples



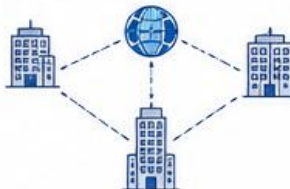
3 WIDE AREA NETWORK (WAN)

A WAN covers a large geographical area like city, country or the whole world.

Features

- Covers large areas
- Connects multiple LANs
- Uses public or private communication links
- Relatively expensive

Example : Connecting offices in different cities.



4 NETWORK TOPOLOGY

The topological design of a network is the arrangement of its elements.

Topology	Diagram	Description
Star		All devices are connected to a central device.
Bus		All devices are connected to a single cable.
Ring		Each device is connected to two other devices.
Mesh		Each device is connected to many or all other devices.

5 INTERNET

The Internet is a global network of networks that connects millions of computers and devices around the world.

Key Points

- It is a network of networks.
- Uses standard protocols (TCP/IP).
- Provides a variety of services like WWW, Email, File Transfer, Chat, Video Conferencing etc.



6 CONCEPT OF INTERNET & WWW

Internet: Global network that connects computers and devices.

WWW (World Wide Web): A service of Internet that allows users to access information in the form of web pages through a web browser.



Internet is the road, WWW is the vehicle that runs on it.

7 APPLICATIONS OF INTERNET

- Communication (Email, Chat, Video Call)
- Information & Research
- Education & E-learning
- Online Banking & Shopping
- Entertainment (Videos, Music, Games)
- Social Networking
- E-Governance
- Online Booking (Tickets, Hotels etc.)



8 WEBSITE ADDRESS AND URL

A Website Address is also known as URL (Uniform Resource Locator). It is the unique address of a web page.

Example of URL

<https://www.example.com:8080/path/page.html>

	0	1	2	3	4	5	6
1. Protocol				(https)			
2. Subdomain			(www)				
3. Domain Name				(example.com)			
4. Port Number					(8080)		
5. Path						(/path/)	
6. File Name							(page.html)

Common Protocols: http, https, ftp

9 INTRODUCTION TO IP ADDRESS

An IP (Internet Protocol) Address is a unique numerical address assigned to each device connected to a network.

Types of IP Address

- IPv4 : 32-bit address (Example: 192.168.1.1)
- IPv6 : 128-bit address

Example (IPv4)



IP Address helps in identifying devices on the network.

10 ISP AND ROLE OF ISP

ISP (Internet Service Provider) connects users to the Internet.

Role of ISP

- Provides Internet connection
- Assigns IP Address
- Provides DNS (Domain Name Service)
- Ensures data transmission
- Offers email and other services

Popular ISPs in India

- Airtel
- Jio
- BSNL
- Vodafone Idea
- ACT Fibernet



11 INTERNET PROTOCOL

Internet uses a set of rules called Protocols for communication.

Common Protocols

Protocol	Purpose
TCP	Transmission Control Protocol
IP	Internet Protocol
HTTP	Hyper Text Transfer Protocol
HTTPS	Secure HTTP
FTP	File Transfer Protocol
SMTP	Simple Mail Transfer Protocol
POP3/IMAP	Email Retrieval Protocols

Most Internet communication uses TCP/IP.

12 MODES OF CONNECTING INTERNET

Mode	Description
HotSpot	Connect via public Wi-Fi (airports, cafes, malls etc.)
WiFi	Connect via wireless router
LAN Cable	Connect using Ethernet cable
BroadBand	High speed Internet via ISP
USB Tethering	Share mobile Internet via USB cable
Mobile Data	Connect using 3G/4G/5G data



13 IDENTIFYING AND USES OF IP / MAC / IMEI

IP Address

- Logical address
- Changes with network
- Used for communication on network



MAC Address

- Physical address of Network Interface Card
- Unique to device
- Used in local network communication



IMEI (International Mobile Equipment Identity)

- Unique 15-digit number for mobile devices
- Used to identify mobile phone
- Helps in blocking stolen/lost phones



14 POPULAR WEB BROWSERS

Web browsers are software used to access information on the WWW.

- Microsoft Edge (Internet Explorer)
- Google Chrome
- Mozilla Firefox
- Opera
- Safari

15 EXPLORING THE INTERNET

Surfing the web: Move from one webpage to another using hyperlinks.

Popular Search Engines:



Searching on Internet:

- Type keywords in search engine
- Get relevant results

Downloading Web Pages: Save web pages, images, documents, videos etc.

Printing Web Pages: Print entire page or selected content.

16 SUMMARY

- Computer Networks allow sharing of resources and information.
- Internet connects the world through networks using protocols.
- WWW helps us access information through web pages.
- IP address identifies devices on the network.
- ISPs provide Internet connectivity.
- Different modes are used to connect to Internet.
- Web browsers help us explore the information available on Internet.





E-MAIL, SOCIAL NETWORKING AND E-GOVERNANCE SERVICES



Covers all topics for 'O' Level (IT) Under DOEACC Scheme

1 STRUCTURE OF E-MAIL

An E-mail (Electronic Mail) is a system of exchanging messages over the Internet.

Basic Structure of E-mail Address



Example:
 raj.kumar123 @ gmail . com
 User Name Domain Name Extension

Common E-mail Services:

- Gmail (mail.google.com)
- Outlook (outlook.live.com)
- Yahoo Mail (mail.yahoo.com)
- Rediffmail (mail.rediff.com)

2 USING E-MAILS

Opening Email Account

1. Go to the email service website (e.g., www.gmail.com).
2. Click on "Create Account".
3. Fill in the required details.
4. Choose a username and password.
5. Complete the verification process.

Mailbox: Inbox and Outbox

Inbox	Stores all incoming emails received.
Outbox	Stores emails that are waiting to be sent.



3 E-MAIL OPERATIONS

Operation	Description
Creating and Sending a new E-mail	Click on "Compose/Write", enter recipient's email address, subject, message and click "Send".
Replying to an E-mail message	Open the email and click "Reply" to send response to the sender.
Forwarding an E-mail message	Open the email and click "Forward", enter recipient's email address and click "Send".
Searching emails	Use the search box to find emails by sender, subject, keywords, date etc.
Attaching files with email	Click on "Attach" (paperclip icon), select the file and send the email.
Email Signature	A digital sign-off added at the end of your email (name, contact, designation etc.).



4 SOCIAL NETWORKING

Social networking refers to using websites and applications to connect and interact with people online.

Platform	Purpose / Use
Facebook	Connect with friends, share updates, photos, videos, join groups and pages.
Twitter	Microblogging platform to share short messages (tweets) and follow latest news.
LinkedIn	Professional networking platform for job search, business and career growth.
Instagram	Photo and video sharing platform to connect with people.

5 INSTANT MESSAGING

Instant Messaging allows real-time text, voice, video communication over the Internet.

- WhatsApp: Text, voice and video calls, sharing images, documents, location etc.
- Facebook Messenger: Chat, voice/video calls on Facebook and Messenger.
- Telegram: Cloud-based messaging with groups, channels and file sharing.

Features of Instant Messaging:

- Real-time communication
- Group chats and channels
- Multimedia sharing (photos, videos, files)
- Voice and video calls

6 INTRODUCTION TO BLOGS

A Blog (Weblog) is an online platform where individuals or organizations share information regularly in the form of posts.

Popular Blogging Platforms:

- Blogger (www.blogger.com)
- WordPress (www.wordpress.com)

Uses:

- Share knowledge and ideas
- Personal diary or experiences
- Business promotions and marketing
- Educational and informational purposes



7 BASICS OF E-COMMERCE

E-commerce (Electronic Commerce) is buying and selling of goods and services or transferring funds electronically over the Internet.

Popular E-commerce Websites:



Features of E-commerce:

- Online shopping and payments
- Home delivery of products
- Wide range of products and services
- Save time and cost



8 NETIQUETTES (INTERNET ETIQUETTES)

Netiquettes are the rules for behaving properly and responsibly on the Internet.

- Be polite and respectful while communicating.
- Do not use offensive or abusive language.
- Respect others' privacy and information.
- Do not share or forward fake information.
- Use proper subject while sending emails.
- Avoid using ALL CAPS (shouting).
- Do not spam or send unnecessary messages.
- Follow the rules of websites and forums.



9 OVERVIEW OF E-GOVERNANCE

E-Governance uses Information & Communication Technology (ICT) to deliver government services to citizens in a transparent, efficient and effective manner.

Objectives:

- Improve efficiency in service delivery
- Enhance transparency and accountability
- Provide easy access to government services
- Reduce paperwork and corruption
- Citizen empowerment



10 E-GOVERNANCE SERVICES

Service	Description	How to Access
Railway Reservation	Online booking, cancellation and enquiry of railway tickets.	<ul style="list-style-type: none"> • Visit www.irctc.co.in • Register/Login and book tickets online.
Passport Services	Apply for new passport, renew, track application status, police verification etc.	<ul style="list-style-type: none"> • Visit www.passportindia.gov.in • Fill the form, book appointment, upload documents.
eHospital (ORS)	Online Registration System for hospitals to book appointments, check reports, etc.	<ul style="list-style-type: none"> • Visit the state eHospital portal • Register/Login and use services.
Accessing e-Governance Services on Mobile Using "UMANG APP"	UMANG (Unified Mobile Application for New-age Governance) provides many government services in one app.	<ul style="list-style-type: none"> • Download "UMANG" app from Google Play Store / Apple App Store • Register and access services like PAN, PF, Gas booking, Licenses etc.
Digital Locker	A secure online platform to store and share documents issued by government departments.	<ul style="list-style-type: none"> • Visit www.digitlocker.gov.in or use DigiLocker app • Login with Aadhaar and access your documents (e.g., Marksheet, DL, RC).

11 SUMMARY

- E-mail helps in quick and easy communication.
- Social networking connects people and shares information.
- Instant messaging allows real-time communication.
- E-commerce makes buying and selling of products easy online.
- Netiquettes ensure safe, respectful and responsible use of the Internet.
- E-Governance services provide various government facilities online, saving time and effort.



Benefits of Internet and E-Services

- ✓ Saves time and cost
- ✓ Easy communication
- ✓ Access to information worldwide
- ✓ Online services 24x7
- ✓ Transparency and accountability
- ✓ Paperless and efficient services

Important Note:

Use Internet and online services wisely and securely. Keep your personal information private and protect your digital identity.





DIGITAL FINANCIAL TOOLS AND APPLICATIONS



Complete Topics Guide

1 DIGITAL FINANCIAL TOOLS

Digital Financial Tools are electronic modes and platforms that help individuals and businesses to perform financial transactions conveniently, quickly and securely.



Key Benefits

- Easy and 24x7 access
- Cashless and secure transactions
- Saves time and cost
- Financial inclusion and transparency
- Track and manage transactions

2 UNDERSTANDING OTP & QR CODE

OTP (One Time Password)

OTP is a temporary password sent to your registered mobile number or email for authentication and verification.

- Valid for single use only
- Enhances security in online transactions

Example: OTP for login, fund transfer, password reset.



QR Code (Quick Response Code)

QR Code is a square barcode that stores information and can be scanned using a smartphone camera or QR scanner.

- Stores data such as URL, UPI ID, payment details, contact info etc.
- Used for payments, ticketing, login, information sharing.



3 DIGITAL PAYMENT MODES & TOOLS

UPI (Unified Payment Interface)

UPI is a real-time payment system that allows instant money transfer between bank accounts using a mobile app.

- Link bank account to UPI ID
- Send/Receive money instantly
- Works 24x7, 365 days

Popular UPI Apps



AEPS (Aadhaar Enabled Payment System)

AEPS allows bank customers to perform basic banking transactions using Aadhaar authentication through Micro ATM.

- Cash Withdrawal
- Balance Enquiry
- Mini Statement
- Fund Transfer

Requires: Aadhaar No. + Registered Mobile + Fingerprint

USSD (Unstructured Supplementary Service Data)

USSD is a technology used to send short codes to your bank through your mobile phone without internet.

- Works on any mobile phone
- No internet required
- Used for balance enquiry, mini statement, fund transfer etc.

Example: Dial *99# (for UPI) or bank specific USSD codes.

Card (Credit / Debit)

Cards are widely used for cashless payments at ATMs, shops, websites and other services.

- Credit Card – Borrow now, pay later
- Debit Card – Pay from your bank account



eWallet (Digital Wallet)

eWallets allow users to store money digitally and make payments online or offline.

- Add money to wallet
- Pay for shopping, bills, recharges, tickets etc.

Popular eWallets



PoS (Point of Sale)

PoS is a device used by merchants to accept card or digital payments.

- Swipe / Insert / Tap Card
- Enter PIN
- Transaction authorized
- Receipt generated



Internet Banking

Internet Banking allows customers to access their bank accounts online.

- View account balance
- Transfer funds
- Pay bills
- Download statements
- Manage accounts



Online Bill Payment

Online Bill Payment allows users to pay bills through digital platforms anytime, anywhere.

Common Bill Payments



Popular Platforms



4 ELECTRONIC FUND TRANSFER SYSTEMS

Service	Full Form	Description	Key Features	Usage / Example
NEFT	National Electronic Fund Transfer	NEFT is an electronic payment system facilitating one-to-one fund transfer between bank accounts.	<ul style="list-style-type: none"> • Settlements done in batches • Available 24x7 • Safe and reliable 	<ul style="list-style-type: none"> • Salary payment • Vendor payment • Loan EMI transfer
RTGS	Real Time Gross Settlement	RTGS is used for large value fund transfers. Settlement occurs in real-time on individual basis.	<ul style="list-style-type: none"> • Minimum amount (as per bank) • Real-time settlement • 24x7 (including holidays) 	<ul style="list-style-type: none"> • Large amount transfer • Business payments • Property transactions
IMPS	Immediate Payment Service	IMPS allows instant interbank fund transfer 24x7 through mobile, internet or ATM.	<ul style="list-style-type: none"> • Instant transfer • 24x7 availability • Mobile number + MMID/Account No. 	<ul style="list-style-type: none"> • Urgent fund transfer • Mobile banking • Small business payments

SAFE DIGITAL FINANCIAL PRACTICES

- ✓ Keep your OTP, PIN, Password confidential.
- ✓ Do not share QR codes or scan unknown QR codes.
- ✓ Use secure and trusted websites / apps only.
- ✓ Check transaction details before confirming.
- ✓ Logout after banking session.
- ✓ Update your mobile number and email regularly.



IMPORTANT NOTE

- Digital financial tools make our life easy and convenient.
- Use them wisely and securely.
- Be alert, be safe, and enjoy the benefits of digital India.





OVERVIEW OF FUTURESKILLS AND CYBER SECURITY



Complete Topics Guide

1 INTERNET OF THINGS (IoT)

IoT connects physical devices to the internet, allowing them to collect, exchange and act on data.

Key Components

- Things (Devices/Sensors)
- Connectivity (Internet)
- Data Processing
- User Interface



Applications

Smart Home, Wearables, Smart Cities, Industrial Automation, Healthcare, Agriculture.

2 BIG DATA ANALYTICS

Big Data refers to large, complex datasets that traditional methods cannot handle efficiently. Analytics extracts meaningful insights from this data.

Characteristics (5 V's)

- Volume – Huge amount of data
- Velocity – High speed of data generation
- Variety – Different types of data
- Veracity – Data accuracy and reliability
- Value – Useful insights for decision making

Process



Applications

Business Intelligence, Predictive Analysis, Fraud Detection, Customer Analytics, Healthcare.

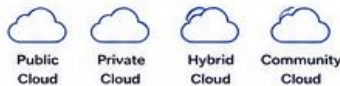
3 CLOUD COMPUTING

Cloud Computing delivers computing services (servers, storage, databases, software, analytics) over the internet.

Service Models

- IaaS – Infrastructure as a Service
- PaaS – Platform as a Service
- SaaS – Software as a Service

Deployment Models



Benefits

- Scalability
- Cost Effective
- Accessibility
- Reliability
- Flexibility
- Disaster Recovery

Examples

Amazon Web Services (AWS), Microsoft Azure, Google Cloud Platform (GCP)

4 VIRTUAL REALITY (VR)

VR is a computer-generated environment that simulates a real or imagined world, providing immersive 3D experiences.

Key Features

- Immersive 3D Environment
- Interaction in Real-time
- Enhances Training and Simulation
- Requires VR Headsets/Controllers



Applications

Gaming, Education, Medical Training, Architecture & Design, Tourism, Real Estate.

5 ARTIFICIAL INTELLIGENCE (AI)

AI enables machines to perform tasks that normally require human intelligence.

Types of AI

- Narrow AI – Performs specific tasks
- General AI – Human level intelligence (in future)
- Super AI – Beyond human intelligence (in future)

Technologies

Machine Learning, Deep Learning, Natural Language Processing, Computer Vision, Expert Systems, Robotics.

Applications

Virtual Assistants, Recommendation Systems, Healthcare, Finance, Autonomous Vehicles, Chatbots, Predictive Analytics.

6 SOCIAL & MOBILE

Social & Mobile technologies connect people and services anytime, anywhere.

Social Technologies

- Social Networking (Facebook, LinkedIn)
- Microblogging (Twitter)
- Media Sharing (YouTube, Instagram)
- Collaboration Tools (Teams, Slack)

Mobile Technologies

- Smartphones & Apps
- Mobile Internet (3G/4G/5G)
- Mobile Banking & Payments
- Location Services (GPS)
- mCommerce



Benefits

Connected world, instant communication, information sharing, mobility, convenience.

7 BLOCKCHAIN TECHNOLOGY

Blockchain is a distributed digital ledger that records transactions securely and transparently.

Key Features

- Decentralized
- Immutable (Tamper-proof)
- Transparent
- Secure
- Consensus-driven



Applications

Cryptocurrency, Smart Contracts, Supply Chain Management, Digital Identity, Voting Systems, Healthcare Records.

8 3D PRINTING / ADDITIVE MANUFACTURING

3D Printing creates physical objects by adding material layer by layer from a digital model.

Key Points

- Reduces material waste
- Enables complex designs
- Customization and rapid prototyping
- Used in many industries



Applications

Prototyping, Healthcare (prosthetics), Aerospace, Automotive, Education, Consumer Products.

9 ROBOTICS PROCESS AUTOMATION (RPA)

RPA uses software robots (bots) to automate repetitive, rule-based business tasks.

Benefits

- Increased Productivity
- Reduced Human Errors
- Cost Savings
- Works 24x7



Applications

Data Entry, Invoice Processing, Report Generation, HR Processes, Banking, Customer Service.

10 CYBER SECURITY

Cyber Security protects systems, networks, and data from digital attacks, unauthorized access, damage or theft.

Key Objectives

- Confidentiality – Keep data private
- Integrity – Ensure data is accurate
- Availability – Ensure data is accessible

Common Threats



Best Practices

- Strong Passwords
- Regular Updates
- Backup Data
- Use Antivirus
- Be Aware of Phishing
- Secure Networks



11 NEED OF CYBER SECURITY

- Digital world is growing rapidly.
- More online data means more risks.
- Cyber attacks can cause financial loss, data theft, identity theft, and disruption of services.
- Protects individuals, organizations and nations.
- Ensures safe use of internet and digital services.

Important Facts

Risk	Impact
Data Breach	Loss of confidential data
Identity Theft	Financial & personal loss
Malware Attack	System damage, data loss
Phishing	Stealing usernames, passwords
Ransomware	Locking data, asking for payment

12 SECURING PC



Action	Description
Use Strong Passwords	Use long passwords with letters, numbers and special characters.
Keep OS & Software Updated	Install updates regularly to fix security vulnerabilities.
Use Antivirus / Anti-malware	Install a reliable antivirus and scan regularly.
Enable Firewall	Firewall helps block unauthorized access.
Be Cautious with Emails & Links	Do not open suspicious emails or click unknown links.
Backup Important Data	Keep regular backups on external hard drive or cloud.
Use Secure Networks	Avoid public Wi-Fi for sensitive activities.
Logout & Lock	Lock your PC when not in use.

13 SECURING SMART PHONE



Action	Description
Screen Lock	Use PIN, Pattern, Password or Biometric lock.
Keep OS & Apps Updated	Regular updates protect from security threats.
Install Apps from Trusted Sources	Use only official app stores (Google Play, App Store).
Use Strong Passwords	Avoid weak or default passwords.
Enable Two-Factor Authentication	Adds extra layer of security.
Avoid Public Wi-Fi	Do not access banking or personal accounts on public Wi-Fi.
Review App Permissions	Allow permissions only if necessary.
Backup Data Regularly	Use cloud or PC backup for important data.
Be Alert of Phishing & Scams	Do not share OTP, PIN or personal information.

FUTURE IS DIGITAL – STAY SKILLED, STAY SECURE, STAY AHEAD!

- ✓ Learn New Technologies
- ✓ Use Digital Tools Wisely
- ✓ Be Safe Online
- ✓ Protect Yourself & Others





OUR COURSES

Career-Focused Learning. Future-Ready You.



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Our Website



Office & Online
Classes Available



Get Practical
Learning Exposure



One to One Classes
Available

CERTIFICATION COURSES

Course Name	Duration
CCC	3 Months
BCC	3 Months
O Level	6 Months / 1 Year

BASIC COURSES

Course Name	Duration
CCA	3 Months
DCA	6 Months
DFA	6 Months
ADCA	1 Year
DOAP	1 Year
DIT	1 Year
DTP	3 Months
Tally Prime	3 Months
Advance Excel	2 Months

SPECIAL TRAINING COURSES

Course Name	Duration
Full Stack Web Development Using PHP & MYSQL	6 Months
Full Stack Web Development Using Python Django	5 Months
Diploma in Digital Marketing	3 Months
Python Data Science	6 Months
Data Analytics Using Python	4 Months
Python for AI	6 Months
Cyber Security	3 Months

UNIVERSITY COURSES

Course Name	Duration	Fees (Per Sem)
BCA	3 Years	12800/-
BBA	3 Years	12800/-
MCA	2 Years	17000/-
MBA	2 Years	17000/-
B.COM	3 Years	6500/-
M.COM	2 Years	9000/-
MSW	2 Years	9000/-
M.SC(Math)	2 Years	10000/-
BA.	3 Years	5500/-
MA	2 Years	9000/-

TECHNICAL COURSES

Course Name	Duration
C Language	2 Months
C++	3 Months
PYTHON	3 Months
DSA	2 Months
Java (Class- IX, X, XI, XII)	3-6 Months
Core Java	4 Months
HTML	1 Months
HTML & CSS	2 Months
Java Script	1 Months
SQL/MYSQL	1 Month



EXPERT FACULTY
Learn from Industry
Professionals



PRACTICAL APPROACH
Hands-on Training
& Live Projects



CERTIFIED COURSES
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