



Certificate in Computer Applications (CCA) Study Material

CCA -101: Fundamentals of IT & Programming Part 3 (Unit 3.1 - Unit 3.5.2)

Supported by Institute of Management Studies (IMS), Ghaziabad-UP

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About CCA Program

The certificate program focuses on computer fundamentals. This program provides a comprehensive introduction to Fundamentals of Information Technology; Computer Applications; Internet & Communication Technologies; Web Programming; and Soft Skills.

The program is designed and conducted by CSC Academy along with one of the leading Management Institute, Institute of Management Studies, Ghaziabad (UP). Some of the core subject faculty are associated in delivering this program.

After the completion of this course, student will be able to:

- Get a basic understanding of personal computers and their operations.
- Use of MS Office Tools Like MS word, MS excel and Power point presentations
- Understand basics of Programming.
- Recognize and describe the working of Computer Networks.
- Get familiar with the basics of communication skills
- Develop good skills at writing business letters, emails, minutes of meeting and other business correspondence.
- Design and Implement interactive, responsive web site using HTM5L, CSS5 and JavaScript.
- Build Dynamic web site using server-side PHP Programming and Database connectivity.

The CCA program covers five course modules:

Unit 101: Fundamentals of IT & Programming

Unit 102: Data Communications

Unit 103: Soft Skills & Communications

Unit 104: Web Technologies

Unit 105: Cyber Security

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The objective of this study material is to provide the students to enable them to obtain knowledge and skills in the related subject. This material is not in itself to be read alone, and student should use this in addition to the CCA online e-learning content study. In case students need any further clarifications or have any suggestions to make for further improvement of the material contained herein, they may give the same at CSC Academy Centre.

All care has been taken to provide content in a manner useful to the students.

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About CSC Academy

CSC Academy was setup in 2017 that provides access to professional learning for learners of diverse backgrounds and educational needs. The CSC Academy is a not-for-profit society under the Societies Registration Act 1860 (Act 21 of 1860), as applicable to the Union of Delhi with its registered office in Delhi. The CSC Academy board comprises of the Additional Secretary, Ministry of Electronics & Information Technology, Government of India as Chairman, and others reputed members from academia. CSC Academy has received certificate from Income Tax Department under section 12 AA and 80 G.

The CSC Academy is committed to teaching, delivering of specialized courses/ training programs, leadership, communication skills and promotion of entrepreneurship among the rural masses in India. Presently, the CSC Academy is delivering various Government of India sponsored skill and education programs, in addition to courses from private sector.

About Institute of Management Studies, Ghaziabad (UP)

IMS Ghaziabad is a pioneer institute for management education in Northern India. It is the first institute of IMS Society Ghaziabad with 30 glorious years of excellence. IMS Ghaziabad offers full time AICTE approved & NBA accredited PGDM Programme which has been awarded the MBA equivalent status by the Association of Indian Universities (AIU), PGDM - International Business, PGDM - Big Data Analytics and MCA Programme are approved by AICTE and affiliated to Dr APJ AKTU, Lucknow.

Since its foundation IMS Ghaziabad has gathered a lot of feathers in its cap with global accreditations and memberships such as Accreditation Services for International Colleges (U.K), AACSB Business Education Alliance, National Assessment and Accreditation Council - 'A' Grade.

IMS Ghaziabad is amongst Top 10 best B-Schools in North India as per latest MBA and B School Rankings. It has been awarded as the "Best Campus for Industry Oriented Management Education in India / Asia Pacific 2019" by ASSOCHAM and the Education Post. It has been ranked as 5th in North India and 15th in India by Times of India B School Survey, February 2019, A++ Institute in Delhi - NCR by 9th Chronicle B-School Survey 2018.





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Course Outline

Course Objective

This subject aims to introduce skills relating to basic concepts and terminology of information technology & programming.

Course Outcomes

At the end of this course, student should be able to:

- 1. Understand basic concepts of I.T.
- 2. Have a basic understanding of personal computers and their operations.
- 3. Able to use MS office tools.
- 4. Understand basics of Programming.

Course Details

Unit I Introduction

Introduction to computers: definitions, evolution, characteristics, Organization of a Computer, Classifications, Distributed Computers, Parallel Computers.

Computer Memory: Random Access Memory (RAM), Read Only Memory (ROM), External Memory (Secondary Memory), Compact Disk Read Only Memory, Magnetic Storage Drives, USB.

Software: Types of S/W - System Software: Operating System, Utility Programs Application Software, Overview of proprietary software, Overview of open source technology.

UNIT II Introduction to MS Word

MS Word Processing basics: Menu Bar, Using the Icons below Menu Bar; Opening and closing Documents: Save and Save as, Page Setup, Print Preview.

Text Creation and manipulation: Document Creation, Editing Text, Text Selection, Cut, Copy and Paste, Spell check.

Formatting the Text: Font and Size selection, Alignment of Text, Paragraph Indenting, Bullets and Numbering, Changing case;

Formatting a document: Set page margin, paragraphs and sections within a document, Adjust indents and hanging indents;

Table Manipulation: Draw Table, Changing cell width and height, Alignment of Text in cell Delete /

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Insertion of row and column Border and shading, Table Formula.

UNIT III Spreadsheets and Presentations

Spread Sheet: Opening of Spread Sheet, Addressing of Cells, Printing of Spread Sheet, Saving Workbooks. **Manipulation of Cells:** Entering Text, Numbers and Dates, Creating Text, Number and Date Series, Editing Worksheet Data, Inserting and Deleting Rows, Column, Changing Cell Height and Width.

Formulas and Function: Using Formulas, Function, basic mathematical operators, using AutoSum etc., using formulas with multiple cell references;

Presentation - Basic Concepts of presentation: Using PowerPoint, Opening A Power Point Presentation, Saving A Presentation; Creation of Presentation using a Template, Creating a Blank Presentation, Entering and Editing Text, Inserting and Deleting Slides in a Presentation; **Preparation of Slides:** Inserting Word Table or An Excel Worksheet, Inserting Other Objects,

UNIT IV Introduction to Programming

Programming Language: Machine Language, Assembly Language, High Level Language their advantages & disadvantages. Basic concepts – data types and its representation in programming, basic arithmetic operations – addition, multiplication, division, modulus; conditional checks, relational and comparisons and loops

Reference books

- 1. Introduction to Information Systems, James O'Brien, George Marakas, TMH
- 2. "Information Technology for Management", (2010) Behl, Ramesh, 1st Ed Tata McGraw Hill, NewDelhi
- 3. Alexis & Mathews: "Fundamentals of Information Technology", VikasPublication.
- 4. Turban Information technology for Management : Transforming Organization in Digital Economy 7/e-Wiley
- 5. <u>Henry Lucas</u>, Information Technology For Management, TMH





Unit 3 : Spreadsheets and Presentations

Unit 3.1: Introduction to MS Excel

INTRODUCTION TO MS EXCEL

Microsoft Excel



Excel is one of the most widely used spreadsheet applications. Microsoft Excel is a software program produced by Microsoft that allows users to organize, format and calculate data with formulas using a spreadsheet system. This software is part of the Microsoft Office suite.

INTRODUCTION TO MS EXCEL





- Click on the Start button on the Taskbar at the bottom left corner of the Screen
- Highlight the All Programs item. The program menu will open.
- Select Microsoft Office from the list of programs.
- Click on Microsoft Excel.





INTRODUCTION TO MS EXCEL



When you first open Excel, the software opens to a new blank workbook looks as below.

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INTRODUCTION TO MS EXCEL



To create a new blank workbook:

- Left-click the Microsoft Office button or File Tab.
- Select **New**. The New Workbook dialog box appears, and Blank Workbook is highlighted by default.
- Click on this
- A new blank workbook appears in the window.





INTRODUCTION TO MS EXCEL



- Cell address
- Each **rectangle** in the worksheet is called a **cell**. Each cell has a name, or a **cell address**, based on the **column** and **row** where it is located. In below diagram name of selected cell is C3 because column head is C and row head is 3.









INTRODUCTION TO MS EXCEL



- To insert text:
- Left-click a **cell** to select it. As you select a cell, the **cell address** appears in the **Name Box**.



• Enter **text** into the **cell** using your keyboard. The text appears in the cell and in the **formula bar**.

INTRODUCTION TO MS EXCEL



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INTRODUCTION TO MS EXCEL



To move through a worksheet using the keyboard:

- Press the **Tab** key to move to the **right** of the selected cell.
- Press the **Shift** key then the **Tab** key to move to the **left** of the selected cell.
- Use the **Page Up** and **Page Down** keys to navigate the worksheet.
- Use the arrow keys.





INTRODUCTION TO MS EXCEL



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INTRODUCTION TO MS EXCEL

To Save workbook using Save As command:

- Click the Microsoft Office button or File tab.
- Select Save As

- Select the **location** where you want to save.
- Enter a **name** for the workbook.

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• Click the **Save** button.

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INTRODUCTION TO MS EXCEL

Other commands to save workbook :

First Method

• Click the Microsoft Office button or file tab.

• Select **Save** from the menu.

Second Method

• Click Save command on Quick access toolbar

Third Method press Ctrl + S Key on keyboard

INTRODUCTION TO MS EXCEL



To print worksheet:

- Click on File tab, a menu appears
- Then click on **Print** and
- a **Print** window will pop up on the screen.
- Finally Click on **OK** for your document to start printing.





INTRODUCTION TO MS EXCEL

To Exit from MS Excel

- Click on ► File tab, a menu appears
 Then click on ► Exit
- OR
- Click on the **X tab** in the top right corner of word window.







Unit 3.2: Modifying Column, Row and Cells



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MODIFYING COLUMNS, ROWS, AND CELLS



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MODIFYING COLUMNS, ROWS, AND CELLS

To modify the row height:

• Position the **cursor** over the **row line** you want to modify, and a **double arrow** will appear.



- Left-click the mouse, then **drag** the cursor **upward** to **decrease** the row height or **downward** to **increase** the row height.
- **Release** the mouse button.

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MODIFYING COLUMNS, ROWS, AND CELLS

• To insert column:



• Click the **Insert** command in the Cells group on the Home tab. The column will appear.

Note: The new column always appears to the left of the selected column.

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MODIFYING COLUMNS, ROWS, AND CELLS



To delete rows and columns:

- Select the row or column you want to delete.
- Click the Delete command in the Cells group on the Home tab.
- Selected column or row deleted

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Unit 3.3: Function & Formula







FUNCTION AND FORMULAS



Another example of a function with more than one argument that calculates the sum of two cell ranges:

equal sign =SUM (A3:A9, B3:B5)







FUNCTION AND FORMULAS

FUNCTION AND FORMULAS



To calculate the sum of a range of data using AutoSum:

- Select the cell where you want to appear function. In this example, select B8.
- Select the drop-down arrow next to the **AutoSum** command on home tab.
- Select **Sum**. A formula will appear in the selected cell, B8.
 - This formula, **=SUM(B4:B7)**, is called a **function**. The AutoSum command automatically selects the range of cells from B4 to B7, based on where you inserted the function. You can alter the cell range if necessary.
- Press the Enter key. The total will appear.

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FUNCTION AND FORMULAS

- To edit a function:
- Select the cell where the **function is defined**.
- Insert the cursor in the formula bar.

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- Edit the range by deleting and changing necessary cell numbers.
- Click the **Enter** key.

FUNCTION AND FORMULAS



• To calculate the average of a range of data:

- Click on the **first cell** (in this example, b4) to be included in the formula.
- Left-click and **drag** the mouse to define a cell range (b4 through cell b7, in this example).
- Click the drop-down arrow next to the AutoSum command.
- Select Average.





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FUNCTION AND FORMULAS

- Complex formulas defined
- Simple formulas have **one** mathematical operation. **Simple formula:** =2+2
- Complex formulas involve more than one mathematical operation.
 Complex formula: =2+2*8
- The order of mathematical operations is important. If you enter
 - a formula that contains several operations, Excel knows to work those operations in a specific order.

• The order of operations is

- 1 Operations enclosed in parenthesis
- 2 Exponential calculations (to the power of)
- 3 Multiplication and division, whichever comes first
- 4 Addition and subtraction, whichever comes first













FUNCTION AND FORMULAS

Example of how to write a formula:

- Click the cell where you want to appear the formula **result.**
- In this example, D4.
- Enter formula =(B4+C4). Now B4, C4 are included in the formula.
- Important: Press Enter, or click the Enter button on the Formula bar. This step ends the formula.







FUNCTION AND FORMULAS



Absolute reference and relative reference

• Relative reference: **Cell references** in formula **automatically adjust** to new locations when the formula is pasted into different cells. This is called a **relative reference**.

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2	\$	8.00	1	gallon	2	\$	16.00	=F2*C	2
3	\$	6.40	1	gallon	1	\$	6.40		
4	\$	5.50	1	gallon	1	\$	5.50		
			When the formula H3, the formula because	a in H2 is copied a in H3 will appe it is a relative re	Iand paste earas =F3* ference	d into C3)	Relative	Reference

- Sometimes when you copy and paste a formula, you don't want one or more cell references to change.
- An absolute reference solves this problem.
- Absolute Reference; cell references in a formula always refer to the same cell or cell range . If a formula is copied to a different location, the absolute reference remains the same.

FUNCTION AND FORMULAS



Absolute reference

An absolute reference is designated in the formula by the addition of a **dollar sign (\$)**. It can precede the column reference or the row reference, or both. Examples of absolute referencing include:

\$A\$2:	The column and the row do not change when copied.
A\$2:	The row does not change when copied.
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Unit 3.4.1: PowerPoint Presentation – Basic Concepts of Presentation

PowerPoint Presentation

 It is an excellent way of presenting information to an audience in visual form.

 The software is easy to use and offers a lot of cool effects for your slideshows

 It helps both the speaker and the participants to learn about the topic more easily.

How to open graphical user interface of MS PowerPoint Software

Click on start

Select MS office PowerPoint option

Double click on it







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Entering and Editing Text

Adding text to a slide is very easy to do. In fact, it's almost self-explanatory. Steps are as follows:

- Please click on the Title, Subtitle, or Text placeholder.
- >Type the **text** as you want.
- If necessary, press [Enter] to move to a new line.
- Click anywhere on the slide outside of the placeholder to deselect it.

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Unit 3.4.2: Saving a Presentation

Saving a PowerPoint presentation

It's a good idea to keep saving our work **periodically** as we never know when we will **lose power** or when our computer is likely to crash.

Steps for saving new PowerPoint presentation

 Locate and select the Save command on the Quick Access Toolbar.

 If you're saving the file for the first time, the Save As pane will appear in backstage view.

 You'll then need to choose where to save the file and give it a file name.

• The **Save** As dialog box will appear.













Unit 3.4.3: How to Open Existing Slide







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Unit 3.4.4: Creating a Presentation using a Template

A template defines the background, font styles, colors and sizes for the placeholders, as well as selected bullets that match the template.

PowerPoint comes with a number of built in stylish templates. It can be used immediately.

To create a PowerPoint presentation using a template, click the **File tab -> New**, and the following panel will be displayed.





















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