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Course Contents For All : Advance Excel & VBA Macros

Introduction and Basic Brush-up of MS Excel and Excel Back-End Opetions:

- Start-up with MS Excel, Quick review on MS Excel Customize Ribbon, Quick Access Toolbar, Mini Toolbar.
- Difference between Excel 2003and 2007and 2010. Saving of Old version MS Excel 1999 and 2003 files to new excel version MS excel 2007 and 2010.
- Conversion of Excel files to PDF.
- Introduction of Excel shortcut keys: Chart will be provided by Advanced Excel.
- Introduction to Excel Worksheet, Row, Column, Cells etc.
- Detailed discussion on Excel design, Back-End working structure and Excel Options.
- Use of Basic Operators Like: + / * ^ %.
- Introduction to the Data and Data Formats.
- Copy, Cut, Paste, Hide, Unhide, Link the Data in Rows, Columns and Sheet.
- Inserting, Deleting, Moving, and linking the data in between the multiple sheets.
- <u>Introduction to the Paste Special all Option.</u> (Formulas, Values, Formats, Comments, Validation, All using source themes, All except Borders, Column Widths, Formula and Number formats, Values and Number Formats, None, Add, Subtract, Multiply, Divide, Skip Blanks and Transpose)
- Format Cells, Rows, Columns and Sheets.
- Protection of Cells, Rows, Columns and Sheets.
- Password protection to the Worksheet, Sheets, Rows, Columns, and Cells.
- Printer Properties and Page Setup (Page, Margin, Header/Footer and Sheet) for Printing.
- Insert Logo to your worksheet while printing.

Start-up With Formulas: Part-I AND Working With Name Ranges:

- **Text Functions:** Concatenate, Dollar, Left, Mid, Right, Lower, Upper, Proper, Replace, Rept, Find, Search, Substitute, Trim, Trunc, Convert.
- Combine multiple formulas
- Writing of the Complex formulas for improvement in formulas writing skills.
- **Date and Time Functions:** Date, Datevalue, Day, Day360, Minutes, Hours, Now, Today, Month, Year, Yearfrac, Time, Weekday, Workday, Networkdays, Networkdays.intl, Datedif, EOmonth.

Basic If Formulas:

- If, If with OR, If with AND, If with AND &OR, If with OR&AND.
- If with Trim, If with Concatenation, If with Left, Mid, Right.
- If with Other formulas, Complex formulas writing in If.

Advanced Level if Formulas:

- Nested If (For Multiple Conditions), If condition used more than one time in the same formula.
- **Production Store Management template with the help of Nested If. (Example)**
- Nested if with left, Mid, Right

Super Advanced Level If Formulas: (Huge Formula Writing):

- Nested if with Multiple Text Functions in single formula.
- Preparation of the TAX Calculation Sheet by Nested if (Based on Indian and US Tax)
- Nested if with Other Critical Lookup Formulas (To be discussed after Super Advanced Look-up Class).
- Nested if with Look-up (To be discussed in Super Advanced Look-up Class).
- Other Complex Nested if to be discussed in Class.
- Introduction to Name Manager: Discussion on Name Ranges and Apply the Name Ranges on Cell and the combination of Cells.
- Use of Name Manager: Creating, Editing, and Deleting of Names.
- Create Name Ranges Automatically.

Start-up With Formulas: Part-II And Use of Tool Find & Select, (Go To Special):

- Math & Trig Functions: ABS, Aggregate, Power, Product, Rand, Randbetween, Round, Rounddown, Roundup, Subtotal, Sum, Sumif, Sumifs, Sumproduct, Trunc.
- Use of Sumproduct as lookup and in various activities.
- Statistical Functions: Average, AverageA, Averageif, Averageifs, Count, CountA, Countblack, Countif, Countifs, MAX, MAXA, MIN, MINA, Small, Large.
- Use of Sumif, Sumifs, Count if, Countifs, Averageif, Averaefis with the Name Ranges.
- Informative AND Other Functions: Cell, Info, ISBLANK, ISERROR, ISEVEN, ISODD, DCOUNT, DSUM, DMAX, DMIN, DPRODUCT, Rank, Use of &.
- <u>Use of Tool Find & Select: Discussion on Excel's very important tool "Find & Select"</u> (<u>Go To Special) including all options:</u> (Comments, Constants, Formulas, Blanks, Current region, Current array, Objects, Row differences, Column differences, Precedents, Dependents, Last cell, Visible cells only, Conditional formats, Data validation).

Start-up With Formulas: Part-III: Lookup Functions:

Lookup Functions:

Basic Level Lookup Formulas:

- Discussion on Lookup Functions, Use of Lookup, Vlookup, Hlookup, Index, Indirect Match, Offset, Choose, Rows, Columns.
- Vlookup with Name Range.
- Hlookup with Name Range.

Advanced Level Lookup Formulas:

- Vlookup with Match, Hlookup with Match.
- Lookup from the Left side of Data. (Lookup, Index and Match)
- Vlookup with Left, Mid and Right.
- Vlookup with Multiple Text Functions.
- Hlookup with Multiple Text Functions.

Super Advanced Level Lookup Formulas: (Huge Formula Writing).

- Vlookup from multiple Data Ranges. (With the help of Logical and Lookup Functions).
- Vlookup with arrays.
- Hlookup with arrays.
- Vlookup with other Multiple Lookup functions.
- Hlookup with other Multiple Lookup functions.
- Creation of Hyperlink.

Magic With Array Formulas:

Detailed Discussion on Arrays:

- What are the Array Formulas, How Array Formulas work and Use of the Array Formulas, Acceptance of Array Formulas in today's scenario.
- Basic Array Formulas Example.
- Linking of Spread sheet with the help of Array
- Array in Multiple formulas.
- Array with Lookup functions.
- Advanced Use of formulas with Array.

Structuring Of The Data & What If Analysis:

- Use of Sorting to arrange the data in ascending and descending order. Addition and deletion of levels to sort the data on multiple parameters.
- Use of Sorting to arrange the data in Left to Right Order. Addition and deletion of levels to sort the data on multiple parameters.
- Use of Filter to extract the unique and desired data.
- Use of Custom Filter to fulfil the desired conditions.
- Use of Advance Filter to fulfil the multiple desired conditions.
- Import the data from the multiple applications to Excel.
- Use of Text to Columns for Rearrangement of Data.
- Remove Duplicates from Data.
- Use of Data Validation and Consolidation.
- Use of Data Validation as a magical tool.
- Data of Grouping, Ungrouping and Subtotal.
- <u>What if Analysis: Detailed Discussion On What if Analysis. Analysis of Data by using</u> <u>Scenario Manager and Data Table and Goad Seek.</u>

Conditional Formatting And Working With Charts:

- Conditional Formatting: Detailed discussion on conditional formatting.
- Conditional Formatting with multiple cell rules and Top/Bottom Rules.
- Conditional Formatting with Data Bars. Colour Scales and Icon Sets.
- Conditional Formatting on Desired Output, Create New rules, Manage the rules.
- Apply any formula to Conditional formatting.
- Choose Formatting as Table and different Cell Style.
- Working With Charts: Detailed discussion on graphically presentation of Data by using Charts.

- Presentation with different kind to Basic charts like Column Charts, Line Charts, Pie Charts, Bar Charts, Scatter Charts
- Preparation of Advanced Level of Charts: Gnatt Chart, Bubble Chart, Speedo Meter Chart. Pareto Chart
- Introduction to Multiple switches and buttons: Like Form Control, Combo Box, Check Box, Spin Box, List Box and Option Box.
- How To Use Switches with Offset function effectively in Charts.
- Preparation of the Interactive Charts.
- Preparation of the Dashboards: Different of Kind of Advanced level of Dashboards
- Use of Formulas Like Offset, Match, Sumif, Sumifs and many more to prepare the Dashboards.
- Use of Data Validation in Charting.
- Use of Sparkline to your Sheet, Interactive Sparklines
- Working with 2axis and 3axis charts.

<u>Pivot Table and Pivot Charts with Slicer and Handling of Errors In Excel :</u>

- Start With Pivot Table, Do the Multiple Field Setting in Pivot Table.
- Pivot form the Multiple Source of Data.
- Pivot from the Multiple Data Ranges.
- Pivot from the Name Range.
- Do the Juggling of Data in Pivot Table and Work on layout of Pivot Table.
- Creating Groups, Insert additional Calculated Field in Pivot Table.
- Perform the % calculation on the basis of multiple fields.
- Start-up with Pivot charts.
- Insert slicer in Pivot Table and Pivot charts.
- Use of Tool "Error Checking".
- Removing Duplicates.
- Trace Precedents, Trace Dependents.
- Discussion of Errors and handling of multiple errors like. #DIV/0! , #N/A, # REF, #NAME, #VALUE, # NULL, #NUM and #######Error.
- What is Circular References error? How to rectify Circular Reference?

Start With VBA Macro Programming :

- Introduction of VBA: Detailed Introduction of VBA Macro Programming. Discussion on need of VBA Macros. Where to apply the VBA Macro. Benefit and limitation of VBA Macro.
- Type of VBA Macro.
- Display of Developers Tab and VB Editor.
- Macro Security.
- How to record a VBA Macro.
- Execution of recorded Macro.
- Editing the recorded Macro.
- Various Key Board Short Cuts related to VBA Macros.
- Working on Various Examples of Macro recorder.
- Introduction to the writing of basic VBA codes.
- Saving Off Your Macro.
- Introduction to the Personal Macros.

VBA Macro Programming : Programming Writing Concepts:

- Defining Variables to Macro.
- Discussion on different Types of Variables.
- Use of Local Window.
- Working on Programming, Understanding on VBA Language.
- Introduction of Message Box in Macro.
- Introduction of Input Box In Macro.
- Use of decision making statements in Macro by using: If and Else conditions, And /OR conditions.

VBA Macro Programming : Working With Loops and Worksheet Ranges:

- Introduction of the Loops in Macro.
- Use of Different type of loops like, For & Next LOOP, For & Each Loop, Do & Until LOOP While and While and Wend Loop.
- Working with Ranges: Selecting, Coping and Pasting the Ranges and extract the data on same Worksheet level.
- Selecting, Coping and Pasting the Ranges and extract the data on different Worksheet level in the same Workbook.
- Selecting, Coping and Pasting the Ranges and extract the data on different Workbook Level.

VBA Macro Programming : Writing of Formula in VBA and Error Handling:

- Introduction of programming concepts for writing the Excel Formulas in to the Program.
- Difference between the A1 and R1C1 style of writing formula in VBA.
- Look at the style A1 and R1C1 and decide which is better.
- Find out the better solution to write the formulas in VBA.
- Writing of the basic formulas in to VBA.
- Writing of the complex formulas in to the VBA.
- Writing of Logical formulas and Lookup formulas in VBA.
- Freezing of the formula in VBA.
- Other useful formulas to be write in Class.
- Error handling.

VBA Macro Programming : Advanced VBA Functions:

- User Define Function (UDF): Detailed discussion on User Defined Function: What is User Defined Function, Use of User Defined Function and How to create any Function OR Formula which is not available in Excel and you want it to work for you by the help of Macro.
- **ADD-IN:** Discussion on ADD-IN: What is ADD-IN, Use of ADD-IN and How to create ADD-IN.
- Working With VBA Events: Discussion on VBA Events, What are Events, How and when to use the VBA Events.
- **VBA User Forms:** Discussion on VBA User Forms, What are User Forms, Why to create User Forms and How to create User Forms.

WITH THANKS FROM: - PANKAJ KUMAR GUPTA (EXCEL PROFESSIONALIST)

ADVANCED EXCEL: INSTITUTE OF ADVANCED EXCEL AND VBA MACROS.