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COURSE

# Advanced Excel: Pivot Tables, Power Query & Dashboards

14 lessons for people who already know SUM and IF and want to build reports that update themselves.

MADE FOR

Accountants, MIS executives, analysts, sales coordinators and anyone who prepares monthly reports from exported data.

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# How to use this course

You already know formulas. This course is about the tools that turn three hours of monthly copy-paste into a ten-minute refresh: dynamic formulas, Power Query, the Data Model, advanced pivots and dashboards with slicers.

# How to study

- Each lesson uses its own sheet in *Advanced_Excel_Practice.xlsx*. Raw exports are in sheets named Data_....
- Power Query and the Data Model need **Excel 2016 or newer on Windows, or Microsoft 365** (Mac has Power Query in Microsoft 365). Google Sheets users can follow lessons 1 to 5 and 10 to 14.
- *Advanced_Excel_Answers.xlsx* has the formula answers. For Power Query lessons, the steps are written out so you can repeat them on your own files.

**THE ONE HABIT OF GOOD REPORT BUILDERS**

Keep raw data, calculations and the final report on separate sheets. Never type over a report by hand. If a number is wrong, fix the source or the formula.

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MODULE 1

# Formulas for reports

## 1. Dynamic arrays: FILTER, SORT, UNIQUE

Microsoft 365 and Excel 2021 have formulas that return many cells at once. They *spill* into the cells below.

- `=UNIQUE(Data[City])` lists every city once.
- `=SORT(UNIQUE(Data[City]))` lists them A to Z.
- `=FILTER(Data,Data[Status]="Unpaid")` shows every unpaid row.
- `=FILTER(Data,(Data[City]=H2)*(Data[Amount]>50000),"None")` uses two conditions (the * means AND).
- `=SORTBY(Data[Customer],Data[Amount],-1)` lists customers from biggest to smallest.

A spilled range is referred to with #: if UNIQUE is in H5, then `=SUMIFS(Data[Amount],Data[City],H5#)` totals every city in one formula.

**#SPILL!**

The cells where the answer wants to go are not empty. Clear them and the formula works.

**PRACTICE · SHEET A01**

List unique salespersons sorted A–Z, their total sales with one SUMIFS using #, and a FILTER of all orders above ₹50,000 from the city typed in H2.

## 2. XLOOKUP in depth

XLOOKUP replaces VLOOKUP, HLOOKUP and most INDEX MATCH.

```
=XLOOKUP(lookup, lookup_array, return_array, [if_not_found], [match_mode], [search_mode])
```

### Four patterns worth knowing

1. **Return several columns at once:** `=XLOOKUP(A2,Items[Code],Items[[Name]:[Rate]])` brings name, unit and rate together.
2. **Approximate match for slabs:** `=XLOOKUP(B2,Slab[From],Slab[Rate],,-1)` finds the slab where the amount falls (commission or discount slabs). -1 means "exact or next smaller".
3. **Last match:** `=XLOOKUP(A2,Pay[Customer],Pay[Date],,0,-1)` searches from the bottom and gives the latest payment date.
4. **Two conditions:** `=XLOOKUP(1,(Rates[City]=B2)*(Rates[Size]=C2),Rates[Price])`.

**OLDER EXCEL**

For slabs in older versions use =LOOKUP(B2,Slab!A:A,Slab!B:B) with the slab column sorted smallest to largest.

**PRACTICE · SHEET A02**

Bring name, unit and rate for each order line in one XLOOKUP, find the commission rate from the slab table, and the last payment date for each customer.

## 3. LET and LAMBDA: readable long formulas

Long formulas are hard to check. **LET** lets you name parts of a formula.

```
=LET(sales, SUMIFS(Data[Amount],Data[Person],A2), target,
XLOOKUP(A2,Targets[Person],Targets[Target]), IF(target=0,"No target",sales/target))
```

Each name is calculated once, which also makes big sheets faster.

**LAMBDA** turns a formula into your own function. In Formulas → Name Manager → New, name it *GSTAmt* and enter `=LAMBDA(amount,rate,ROUND(amount*rate,2))`. Now `=GSTAmt(B2,18%)` works anywhere in the workbook.

**AVAILABILITY**

LET and LAMBDA are in Microsoft 365 and Excel 2021 (LAMBDA: Microsoft 365). Google Sheets also has LET and LAMBDA.

**PRACTICE · SHEET A03**

Rewrite the long achievement formula with LET, then create a named LAMBDA that returns the in-hand salary after PF at 12% of basic and professional tax of ₹200.

## 4. Error-proof reports

A report that shows #N/A or #DIV/0! in a meeting loses trust. Handle errors on purpose.

| Error | Usual cause | Fix |
|---|---|---|
| #N/A | value not found | check spaces and number-as-text; IFNA(...,"Not found") |
| #DIV/0! | dividing by zero or blank | =IF(B2=0,"",A2/B2) |
| #VALUE! | text where a number is needed | VALUE(), or clean the source |
| #REF! | a referenced cell was deleted | rebuild the formula; use Tables to avoid it |
| #NAME? | misspelt function or missing quotes | check spelling |

Use **IFERROR** only around formulas where an error is expected. Wrapping everything hides real mistakes.

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# You have read the free preview of Advanced Excel Course

For people who know SUM and IF and now prepare monthly reports: learn dynamic formulas, Power Query, the Data Model and dashboards that refresh with one click.

- Course book: 14 lessons in 4 modules, PDF
- Practice data: Bank export, branch files, masters, wide report
- Answer file: Formula tasks solved
- Final project: A monthly report that refreshes itself

**draftstack.in/product/advanced-excel-pivot-power-query-course**