



बिहार सरकार  
शिक्षा विभाग, रोहतास

# TECH PATHSHALA



ACADEMIC SESSION  
**2026-2027**

बिहार शिक्षा परियोजना, रोहतास

**VOLUME 3**

UNDER THE GUIDANCE OF

# Madan Ray

District Education Officer (DEO), Rohtas, Bihar



## CORE TEAM ADMINISTRATION

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## LIST OF ASSOCIATED COMPUTER SCIENCE TEACHERS

| #  | TEACHER NAME           | SCHOOL NAME                   | BLOCK / CITY |
|----|------------------------|-------------------------------|--------------|
| 1  | Rajnish Kumar          | UUMS Rampur Naresh            | Kargahar     |
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| 3  | Md Huzaifa             | USSS Sikariya                 | Sasaram      |
| 4  | Ravi Shankar Mishra    | UMV Karserua                  | Sasaram      |
| 5  | Sanjeev Kumar Singh    | UMV Patiyan                   | Sasaram      |
| 6  | Jaya Prabha            | SSHS Narwar Bhagirath         | Kochas       |
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## Module 8

### Mathematical Operations in MS Excel

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# CONTENT

## Module 8

### Mathematical Operations in MS Excel



#### Objective

- To understand and apply basic mathematical operations in MS Excel.
- To perform calculations using formulas and functions.
- To work efficiently with numbers in real-life data.



#### Topics

- Addition (+)
- Subtraction (–)
- Multiplication (\*)
- Division (/)
- Order of Operations
- Using Formulas
- AutoSum
- Cell References



#### Practical Activities

- Create a marksheet and calculate total, average and percentage.
- Use basic operations in a data table.
- Apply formulas and AutoSum.
- Format the table with proper headings and borders.

## Module 9

### Logical Operation in MS Excel



#### Objective

- To understand logical operations in MS Excel.
- To use IF and other logical functions for decision making.
- To apply conditional logic in real-life data and worksheets.



#### Topics

- Logical Operators (AND, OR, NOT)
- IF Function
- Nested IF
- Combining Functions
- Truth Tables
- Conditional Logic



#### Practical Activities

- Use IF function to grade students (Pass/Fail).
- Apply AND/OR/NOT for multiple conditions.
- Create a discount calculator using logical functions.
- Format results with conditional formatting.

## Module 10

### Revision of PowerPoint

Creating a PPT on Pollution



#### Objective

- To create an informative and well-structured PowerPoint presentation.
- To present the causes, effects and solutions to pollution using visual and text content.



#### Topics

- What is Pollution?
- Types of Pollution
- Causes of Pollution
- Effects of Pollution
- Solutions to Reduce Pollution
- Conclusion



#### Practical Activities

- Create a PowerPoint presentation (6–8 slides) on Pollution.
- Add relevant images, text, charts or icons.
- Use different slide layouts and transitions.
- Save and present the file.

# SUMMARY OF MS WORD

| No. | Question                                    | Answer                                                                        |
|-----|---------------------------------------------|-------------------------------------------------------------------------------|
| 1.  | What is MS Word?                            | MS Word is a word-processing program used to create and edit documents.       |
| 2.  | What is a document?                         | A document is a file containing text, pictures, tables, or other information. |
| 3.  | What is the default file extension of Word? | .docx                                                                         |
| 4.  | What is the shortcut key for New Document?  | Ctrl + N                                                                      |
| 5.  | What is the shortcut key for Save?          | Ctrl + S                                                                      |
| 6.  | What is the shortcut key for Open?          | Ctrl + O                                                                      |
| 7.  | What is the shortcut key for Print?         | Ctrl + P                                                                      |
| 8.  | What is the shortcut key for Copy?          | Ctrl + C                                                                      |
| 9.  | What is the shortcut key for Paste?         | Ctrl + V                                                                      |
| 10. | What is the shortcut key for Cut?           | Ctrl + X                                                                      |
| 11. | What is the shortcut key for Undo?          | Ctrl + Z                                                                      |
| 12. | What is the shortcut key for Redo?          | Ctrl + Y                                                                      |
| 13. | What is Bold used for?                      | It makes text darker and thicker.                                             |
| 14. | What is the shortcut for Bold?              | Ctrl + B                                                                      |
| 15. | What is the shortcut for Italic?            | Ctrl + I                                                                      |
| 16. | What is the shortcut for Underline?         | Ctrl + U                                                                      |
| 17. | What is text alignment?                     | It determines the position of text on a page.                                 |
| 18. | Name four types of alignment.               | Left, Center, Right, and Justify.                                             |
| 19. | What is a font?                             | A font is the design or style of text.                                        |
| 20. | What is font size?                          | Font size determines how large or small the text appears.                     |
| 21. | What is a paragraph?                        | A group of sentences or lines forming a section of text.                      |
| 22. | What is a table?                            | A table organizes information into rows and columns.                          |
| 23. | Why is Spell Check used?                    | It helps find and correct spelling mistakes.                                  |
| 24. | What is a header?                           | A header is text or information displayed at the top of a page.               |
| 25. | What is a footer?                           | A footer is text or information displayed at the bottom of a page.            |

# SUMMARY OF MS POWERPOINT

1. **What is MS PowerPoint?** : PowerPoint is a presentation program used to create slideshows.
2. **What is a presentation?** : A presentation is a collection of slides used to display information.
3. **What is a slide?** : A slide is one page or screen of a PowerPoint presentation.
4. **What is the default PowerPoint file extension?** : .pptx
5. **What is the shortcut for a new presentation?** : Ctrl + N
6. **What is the shortcut for saving a presentation?** : Ctrl + S
7. **What is the shortcut for opening a presentation?** : Ctrl + O
8. **What is the shortcut for printing a presentation?** : Ctrl + P
9. **What is a slide layout?** : A slide layout determines how text, pictures, and other objects are arranged.
10. **What is a title slide?** : It is usually the first slide containing the presentation title and subtitle.
11. **What is a theme?** : A theme is a predefined combination of colors, fonts, and effects.
12. **What is Slide Show?** : Slide Show displays the presentation full-screen.
13. **What key starts a slideshow from the beginning?** : F5
14. **What key starts the slideshow from the current slide?** : Shift + F5
15. **How do you add a new slide?** : Use Home → New Slide or press Ctrl + M.
16. **Can we insert pictures in PowerPoint?** : Yes, pictures can be inserted into slides.
17. **Can we insert tables in PowerPoint?** : Yes, tables can be inserted into slides.
18. **Can we insert shapes in PowerPoint?** : Yes, shapes such as rectangles, circles, and arrows can be inserted.
19. **What is a text box?** : A text box is an area where you can type text anywhere on a slide.
20. **How can you duplicate a slide?** : Right-click the slide and select Duplicate Slide.
21. **How can you delete a slide?** : Select the slide and press the Delete key.
22. **Why is PowerPoint useful?** : It helps present information clearly using text, pictures, charts, animations, and slides.

# SUMMARY OF MS EXCEL

## 1. MS Excel

:

MS Excel is a spreadsheet program used to organize, calculate and analyze data.

## 2. Workbook

:

A workbook is an Excel file that contains one or more worksheets.

## 3. Worksheet

:

A worksheet is a single sheet where you enter and work with data.

## 4. Cell in MS Excel :

A cell is the intersection of a row and a column where data is entered.

## 5. Selecting Cells, Rows & Columns :

Select cells, rows or columns to enter data, apply formatting and perform actions.

## 6. Formatting in MS Excel :

Formatting changes the font, color, alignment, borders and number format of data.

## 7. Basic Mathematical Formulas :

SUM adds numbers, AVERAGE finds the average, COUNT counts values, and MAX/MIN find the largest/smallest value.

## MATHEMATICAL OPERATIONS IN MS-EXCEL



### MS Excel Address of a Cell

Beginner Level

Learn  
Practice  
Grow



#### Learning Objective:

By the end of this lesson, students will understand what a cell address is and how to identify cells in an Excel worksheet.

#### 1. What is a Cell?

A **cell** is a small box in an Excel worksheet where we enter data such as:

- Name
- Number
- Date
- Formula
- Text

|   | A | B | C |
|---|---|---|---|
| 1 |   |   |   |
| 2 |   |   |   |
| 3 |   |   |   |
| 4 |   |   |   |
| 5 |   |   |   |

Cell B2

A cell is formed by the intersection of a **column** and a **row**.

#### 3. How to Identify a Cell Address?

Look at the **column letter** first, then look at the **row number**.

##### Example:

If a cell is in **Column C** and **Row 4**:

**Cell Address = C4**



Column comes first → Row comes second.

#### 2. What is the Address of a Cell?

The **cell address** tells us the exact location of a cell in an Excel worksheet.

A cell address is made using:

**Column Letter + Row Number**

##### Examples:

| Cell             | Address    |
|------------------|------------|
| Column A, Row 1  | <b>A1</b>  |
| Column B, Row 3  | <b>B3</b>  |
| Column C, Row 5  | <b>C5</b>  |
| Column D, Row 8  | <b>D8</b>  |
| Column E, Row 10 | <b>E10</b> |

#### 4. Important Examples

| Cell       | Location         |
|------------|------------------|
| <b>A1</b>  | Column A, Row 1  |
| <b>B2</b>  | Column B, Row 2  |
| <b>D5</b>  | Column D, Row 5  |
| <b>F7</b>  | Column F, Row 7  |
| <b>H10</b> | Column H, Row 10 |



#### Practice Exercise

Write the cell address for each location:

1. Column A, Row 5 = \_\_\_\_\_
2. Column B, Row 7 = \_\_\_\_\_
3. Column C, Row 2 = \_\_\_\_\_
4. Column D, Row 9 = \_\_\_\_\_
5. Column E, Row 4 = \_\_\_\_\_
6. Column F, Row 10 = \_\_\_\_\_



##### Answers

1. A5
2. B7
3. C2
4. D9
5. E4
6. F10



#### Practical Activity

Open Microsoft Excel and enter the following data:

|   | A           | B          | C           |
|---|-------------|------------|-------------|
| 1 | <b>Name</b> | <b>Age</b> | <b>City</b> |
| 2 | Ravi        | 20         | Delhi       |
| 3 | Amit        | 22         | Mumbai      |
| 4 | Sita        | 21         | Jaipur      |

##### Now identify:

- Name → **A1**
- Age → **B1**
- City → **C1**
- Ravi → **A2**
- 20 → **B2**
- Delhi → **C2**
- Amit → **A3**
- Mumbai → **C3**



#### Remember

**Cell Address =**  
**Column Letter +**  
**Row Number**

##### Example:

**B5** means  
Column B + Row 5.



#### Quick Question

Q. What is the cell address of the cell at Column D and Row 6?

**Answer: D6**



# MS Excel for Beginners

## SUM and AVERAGE Functions

Learn  
Practice  
Grow



Calculate Total and Find the Average – Easily!

### 1. SUM Function

The SUM function adds up the numbers in a range of cells.

#### Syntax:

**=SUM**(number1, [number2], ...)

#### Example:

Find the total of the marks in cells B2 to B6.

|   | A       | B     | C           |
|---|---------|-------|-------------|
| 1 | Student | Marks |             |
| 2 | Rohan   | 78    |             |
| 3 | Anita   | 85    |             |
| 4 | Sohan   | 92    |             |
| 5 | Neha    | 76    |             |
| 6 | Rahul   | 89    |             |
| 7 | Total   | 420   | =SUM(B2:B6) |

#### Formula:

**=SUM**(B2:B6)

#### Result:

420

### 2. AVERAGE Function

The AVERAGE function calculates the mean (average) of the numbers in a range of cells.

#### Syntax:

**=AVERAGE**(number1, [number2], ...)

#### Example:

Find the average of the marks in cells B2 to B6.

|   | A       | B     | C               |
|---|---------|-------|-----------------|
| 1 | Student | Marks |                 |
| 2 | Rohan   | 78    |                 |
| 3 | Anita   | 85    |                 |
| 4 | Sohan   | 92    |                 |
| 5 | Neha    | 76    |                 |
| 6 | Rahul   | 89    |                 |
| 7 | Average | 84    | =AVERAGE(B2:B6) |

#### Formula:

**=AVERAGE**(B2:B6)

#### Result:

84

### How to Use in Excel

- 1 Open your Excel sheet and enter the numbers in a column or row.
- 2 Select the cell where you want the result.
- 3 Type the formula (e.g. **=SUM(...)** or **=AVERAGE(...)**).
- 4 Press Enter. The result will appear in the cell.

### Practice Exercise

Use the given data and try the following:

|   | A      | B     | C        |
|---|--------|-------|----------|
| 1 | Item   | Sales | Quantity |
| 2 | Apple  | 120   | 5        |
| 2 | Banana | 80    | 8        |
| 3 | Orange | 150   | 6        |
| 4 | Mango  | 100   | 4        |
| 5 | Grape  | 90    | 7        |

#### Questions:

1. Find the total of Sales (use SUM).
2. Find the average of Sales (use AVERAGE).
3. Find the total of Quantity (use SUM).
4. Find the average of Quantity (use AVERAGE).

### Key Points to Remember

- ✓ SUM adds up numbers.
- ✓ AVERAGE gives the mean value.
- ✓ Use a cell range (e.g. B2:B6).
- ✓ You can also use the mouse to select the range.
- ✓ Both functions work with numbers only (not text).

Practice makes perfect!



Use SUM and AVERAGE to save time and work smarter!



# MS Excel for Beginners

## MIN and MAX Functions

Learn  
Practice  
Grow



Find the Smallest and Largest Value in a Range!

### 1 MIN Function

The MIN function returns the smallest number in a range of cells.

#### Syntax:

**=MIN**(number1, [number2], ...)

#### Example:

Find the lowest marks in cells B2 to B6.

|   | A           | B     | C           |
|---|-------------|-------|-------------|
| 1 | Student     | Marks |             |
| 2 | Rohan       | 78    |             |
| 3 | Anita       | 85    |             |
| 4 | Sohan       | 92    |             |
| 5 | Neha        | 76    |             |
| 6 | Rahul       | 89    |             |
| 7 | Lowest Mark | 76    | =MIN(B2:B6) |

#### Formula:

**=MIN(B2:B6)**

#### Result:

**76**

### 2 MAX Function

The MAX function returns the largest number in a range of cells.

#### Syntax:

**=MAX**(number1, [number2], ...)

#### Example:

Find the highest marks in cells B2 to B6.

|   | A            | B     | C           |
|---|--------------|-------|-------------|
| 1 | Student      | Marks |             |
| 2 | Rohan        | 78    |             |
| 3 | Anita        | 85    |             |
| 4 | Sohan        | 92    |             |
| 5 | Neha         | 76    |             |
| 6 | Rahul        | 89    |             |
| 7 | Highest Mark | 92    | =MAX(B2:B6) |

#### Formula:

**=MAX(B2:B6)**

#### Result:

**92**

## How to Use in Excel

- 1 Open your Excel sheet and enter the numbers in a column or row.
- 2 Select the cell where you want the result.
- 3 Type the formula (e.g. =MIN(...) or =MAX(...)).
- 4 Press Enter. The result will appear in the cell.

### Practice Exercise

Use the given data and try the following:

|   | A        | B     | C        |
|---|----------|-------|----------|
| 1 | Item     | Price | Quantity |
| 2 | Pen      | 15    | 5        |
| 3 | Notebook | 40    | 3        |
| 4 | Pencil   | 10    | 8        |
| 5 | Eraser   | 5     | 12       |
| 6 | Ruler    | 20    | 4        |

#### Questions:

1. Find the lowest price (use MIN).
2. Find the highest quantity (use MAX).
3. Find the minimum value in column B (Price).
4. Find the maximum value in column C (Quantity).

### Key Points to Remember

- ✓ MIN gives the smallest value in a range.
- ✓ MAX gives the largest value in a range.
- ✓ Use cell range (e.g. B2:B6).
- ✓ You can also use the mouse to select the range.
- ✓ These functions work with numbers only (not text).

Smallest or Largest...  
Excel makes it easy!





# MS Excel for Beginners

## COUNT and PERCENTAGE Functions

Learn  
Practice  
Grow



Count Your Data & Find the Percentage!

### 1 COUNT Function

The COUNT function counts the number of cells that contain numbers in a range.

#### Syntax:

**=COUNT(value1, [value2], ...)**

#### Example:

Count the number of students in the list.

|   | A              | B                      |
|---|----------------|------------------------|
| 1 | Student        | Marks                  |
| 2 | Rohan          | 78                     |
| 3 | Anita          | 85                     |
| 4 | Sohan          | 92                     |
| 5 | Neha           | 76                     |
| 6 | Rahul          | 89                     |
| 7 | Total Students | <b>=COUNT(B2:B6) 5</b> |

#### Formula:

**=COUNT(B2:B6)**

#### Result:

**5**

### 2 PERCENTAGE Function

The PERCENTAGE is usually calculated by dividing a part by the total and multiplying by 100.

#### Syntax:

**= (part / total) \* 100**

#### Example:

Find the percentage of marks obtained by each student (out of 100).

|   | A         | B                      | D          |
|---|-----------|------------------------|------------|
| 1 | Student   | Marks                  | Percentage |
| 2 | Rohan     | 78                     | 78%        |
| 3 | Anita     | 85                     | 85%        |
| 4 | Sohan     | 92                     | 92%        |
| 5 | Neha      | 76                     | 76%        |
| 6 | Rahul     | 89                     | 89%        |
| 7 | Average % | <b>=AVERAGE(D2:D6)</b> | <b>84%</b> |

#### Formula:

**=B2/100\*100**  
(or simply =B2)

#### Result:

**78%**



### How to Use in Excel

- 1 Open your Excel sheet and enter the data in a table.
- 2 Select the cell where you want the result.
- 3 Type the formula (e.g. **=COUNT(B2:B6)** or **=(B2/100)\*100**).
- 4 Press Enter. The result will appear in the cell.



### Practice Exercise

Use the given data and try the following:

|   | A        | B        | C     |
|---|----------|----------|-------|
| 1 | Item     | Quantity | Sales |
| 2 | Pen      | 12       | 120   |
| 3 | Notebook | 8        | 80    |
| 4 | Pencil   | 15       | 150   |
| 5 | Eraser   | 6        | 60    |
| 6 | Ruler    | 10       | 100   |
| 7 |          |          |       |

#### Questions:

1. Count the total number of items (use COUNT).
2. Count the number of items with quantity greater than 10 (use COUNTIF).
3. Find the percentage of sales for Pen (out of total sales).
4. Find the percentage of sales for Notebook (out of total sales).



### Key Points to Remember

- ✓ COUNT counts numbers only (ignores text and blank cells).
- ✓ Use COUNTIF for conditional counting (e.g. >10).
- ✓ Percentage = (part / total) × 100.
- ✓ Format the cell as Percentage (Home → Number → Percentage).
- ✓ You can also use the mouse to select the range.

Small steps...  
Big Excel skills!



Count → Calculate Percentage → Work Smarter!



# Student Marks Sheet

(For Excel Practice – SUM, AVERAGE, MIN, MAX, COUNT, PERCENTAGE)



Enter the data in Excel and use the given functions to find the results.

| Roll No. | Name   | Hindi (100) | English (100) | Maths (100) | Science (100) | Social Science (100) | Total (500) | Average (%) |
|----------|--------|-------------|---------------|-------------|---------------|----------------------|-------------|-------------|
| 1        | Rohan  | 78          | 85            | 92          | 76            | 88                   |             |             |
| 2        | Anita  | 85          | 90            | 78          | 82            | 80                   |             |             |
| 3        | Sohan  | 92          | 76            | 85          | 85            | 90                   |             |             |
| 4        | Neha   | 76          | 82            | 80          | 79            | 85                   |             |             |
| 5        | Rahul  | 88          | 90            | 95          | 87            | 92                   |             |             |
| 6        | Priya  | 72          | 68            | 75          | 70            | 78                   |             |             |
| 7        | Amit   | 81          | 79            | 83          | 76            | 84                   |             |             |
| 8        | Simran | 90          | 88            | 91          | 85            | 89                   |             |             |
| 9        | Karan  | 65          | 72            | 70          | 68            | 75                   |             |             |
| 10       | Pooja  | 84          | 87            | 86          | 82            | 88                   |             |             |

## Class Summary (Use Functions)

| Information                                       | Formula                        |
|---------------------------------------------------|--------------------------------|
| Total Marks of All Students (All Subjects)        | =SUM(G2:K11)                   |
| Average Marks of All Students (Overall Average)   | =AVERAGE(G2:K11)               |
| Highest Marks in Hindi                            | =MAX(B2:B11)                   |
| Lowest Marks in Hindi                             | =MIN(B2:B11)                   |
| Number of Students Scored 80 or More in Maths     | =COUNTIF(E2:E11,">=80")        |
| Percentage of Students Scored 80 or More in Maths | =COUNTIF(E2:E11,">=80")/10*100 |

## Functions to Use

- SUM()** – Total marks of all students  
=SUM(G2:K11)
- AVERAGE()** – Overall average marks  
=AVERAGE(G2:K11)
- MIN()** – Lowest marks in Hindi  
=MIN(B2:B11)
- MAX()** – Highest marks in Hindi  
=MAX(B2:B11)
- COUNT()** – Count students scoring 80 or more in Maths  
=COUNTIF(E2:E11,">=80")
- PERCENTAGE()** – Percentage of students scoring 80 or more in Maths  
=COUNTIF(E2:E11,">=80")/10\*100

## Your Task

- Calculate the Total marks for each student (use SUM).
- Calculate the Average marks for each student (use AVERAGE).
- Find the highest and lowest marks in Hindi (use MAX and MIN).
- Count the total number of students (use COUNT).
- Find how many students scored 80 or more in Maths (use COUNTIF).
- Find the percentage of students who scored 80 or more in Maths (use PERCENTAGE).

# MODULE - 09

## LOGICAL OPERATION IN MS-EXCEL



### Conditional Operator in Excel for Beginners

Make decisions with simple conditions!



#### 1 What is Conditional Operator?

A conditional operator is used in Excel to test a condition and return a result based on whether the condition is TRUE or FALSE.

##### Common Conditional Operators

| Operator | Meaning                  |
|----------|--------------------------|
| >        | Greater than             |
| <        | Less than                |
| =        | Equal to                 |
| >=       | Greater than or equal to |
| <=       | Less than or equal to    |
| <>       | Not equal to             |

#### 2 IF Function (Most Common)

The IF function checks a condition and gives a result.

##### Syntax:

=IF(condition, value\_if\_true, value\_if\_false)

##### Example:

Give "Pass" if marks are 40 or more, otherwise "Fail".

|   | A       | B     | C      |
|---|---------|-------|--------|
| 1 | Student | Marks | Result |
| 2 | Rohan   | 78    | Pass   |
| 3 | Anita   | 35    | Fail   |
| 4 | Sohan   | 92    | Pass   |
| 5 | Neha    | 46    | Pass   |
| 6 | Rahul   | 28    | Fail   |

##### Formula (in C2):

=IF(B2>=40,"Pass","Fail")

#### 3 Using Other Conditional Operators

You can use other operators with IF for different checks.

| Task                                  | Formula (example)                  |
|---------------------------------------|------------------------------------|
| Check if a number is greater than 50  | =IF(A2>50,"Yes","No")              |
| Check if a number is less than 20     | =IF(A2<20,"Yes","No")              |
| Check if a number is equal to 100     | =IF(A2=100,"Yes","No")             |
| Check if a number is not equal to 0   | =IF(A2<>0,"Yes","No")              |
| Check if a value is between 40 and 80 | =IF(AND(A2>=40,A2<=80),"Yes","No") |

#### 4 Nested IF (Multiple Conditions)

Use nested IF when you have more than two results.

##### Syntax:

=IF(condition1, value\_if\_true1,  
IF(condition2, value\_if\_true2, value\_if\_false))

##### Example:

Give grades based on marks.

| Marks       | Grade |
|-------------|-------|
| 90 or above | A     |
| 70 - 89     | B     |
| 50 - 69     | C     |
| Below 50    | D     |

##### Formula (in B2):

=IF(A2>=90,"A",  
IF(A2>=70,"B",  
IF(A2>=50,"C","D")))

#### 5 Practice Exercise

Use the given data and try the following:

|   | A        | B     | C        |
|---|----------|-------|----------|
| 1 | Item     | Price | Discount |
| 2 | Pen      | 15    | No       |
| 3 | Notebook | 80    | Yes      |
| 4 | Pencil   | 10    | No       |
| 5 | Eraser   | 5     | No       |
| 6 | Ruler    | 50    | Yes      |

##### Questions:

- In column C, give "Yes" if the price is 50 or more, otherwise "No".  
Formula: =IF(B2>=50,"Yes","No")
- Give a 10% discount if price is 50 or more, otherwise 0%.  
Formula: =IF(B2>=50,B2\*10%,0)
- Find the final price in column D (Price - Discount).  
Formula: =B2-C2



##### Key Points to Remember

- ✓ Use conditional operators to test conditions.
- ✓ IF function returns different results based on TRUE or FALSE.
- ✓ You can use >, <, =, >=, <=, <>.
- ✓ Use AND / OR for multiple conditions.
- ✓ Nested IF helps for more than two results.

Practice makes perfect!





# Conditional Operator in Excel

## Practice Set for Beginners

Learn  
Practice  
Grow



Use IF function with different conditional operators and see how Excel helps you make decisions!

### 1 Enter the following data in Excel

| S. No. | Student | Marks | Result 1<br>(Pass/Fail) | Result 2<br>(Excellent/Good) | Result 3<br>(Yes/No) | Result 4<br>(Weak/OK) | Result 5<br>(50 or No) | Result 6<br>(Not 40/40) |
|--------|---------|-------|-------------------------|------------------------------|----------------------|-----------------------|------------------------|-------------------------|
| 1      | Rohan   | 78    |                         |                              |                      |                       |                        |                         |
| 2      | Anita   | 35    |                         |                              |                      |                       |                        |                         |
| 3      | Sohan   | 92    |                         |                              |                      |                       |                        |                         |
| 4      | Neha    | 46    |                         |                              |                      |                       |                        |                         |
| 5      | Rahul   | 28    |                         |                              |                      |                       |                        |                         |
| 6      | Priya   | 65    |                         |                              |                      |                       |                        |                         |
| 7      | Amit    | 39    |                         |                              |                      |                       |                        |                         |
| 8      | Simran  | 88    |                         |                              |                      |                       |                        |                         |
| 9      | Karan   | 51    |                         |                              |                      |                       |                        |                         |
| 10     | Pooja   | 72    |                         |                              |                      |                       |                        |                         |

### 2 Complete the Following Tasks

#### 1 Pass / Fail

If marks are 40 or more, show **Pass**, otherwise **Fail**.

##### Formula

=IF(B2>=40,"Pass","Fail")

#### 2 Excellent

If marks are 80 or more, show **Excellent**, otherwise **Good**.

##### Formula

=IF(B2>=80,"Excellent","Good")

#### 3 Check Condition

Show **Yes** if marks are greater than 50, otherwise **No**.

##### Formula

=IF(B2>50,"Yes","No")

#### 4 Below 40

Show **Weak** if marks are less than 40, otherwise **OK**.

##### Formula

=IF(B2<40,"Weak","OK")

#### 5 Exact Marks

Check whether the marks are exactly 50.

##### Formula

=IF(B2=50,"Yes","No")

#### 6 Not Equal

Check whether marks are not equal to 40.

##### Formula

=IF(B2<>40,"Not 40","40")

### Conditional Operators

Use these operators in your formulas to compare values.

| Operator | Meaning                  |
|----------|--------------------------|
| >        | Greater than             |
| <        | Less than                |
| =        | Equal to                 |
| >=       | Greater than or equal to |
| <=       | Less than or equal to    |
| <>       | Not equal to             |



#### Remember

- Type the formula in the first result cell (e.g., C2) and press Enter.
- Drag the fill handle (small square at bottom-right of the cell) down to apply the formula to all rows.
- Use double quotes for text (e.g., "Pass", "Fail").

# MODULE-10

## SAMPLE FOR POWERPOINT PRESENTATION

### SLIDE- 01

## POLLUTION

- Meaning
- Types
- Causes
- Effects
- Prevention

### SLIDE- 02

#### What is Pollution?

- Pollution is the contamination of our environment by harmful substances that make air, water, or land dirty and unsafe.
- It can affect air, water, soil, living organisms and human health.
- Pollution may come from natural sources, but many major sources are caused by human activities.
- Reducing pollution helps protect ecosystems and improves quality of life.

## SLIDE- 03

### Major Types of Pollution

#### Air Pollution

Smoke, dust and harmful gases in the air.

#### Water Pollution

Waste and chemicals entering rivers, lakes and oceans.

#### Soil Pollution

Waste, plastics and chemicals contaminating land.

#### Noise Pollution

Unwanted or excessive sound from traffic, machines and other sources.

## SLIDE- 04

### Causes and Effects

- a) Common causes: vehicle exhaust, industrial emissions, open burning, sewage, plastic waste, pesticides and excessive noise.
- b) Effects on people: breathing problems, unsafe water, stress and other health risks.
- c) Effects on nature: damaged habitats, reduced biodiversity, contaminated soil and water, and harm to wildlife.
- d) The severity of effects depends on the pollutant, amount, exposure and local conditions.

## SLIDE- 05

### How Can We Reduce Pollution?

1. Use public transport, walk or cycle when practical.
  2. Reduce, reuse and recycle materials (avoid unnecessary single-use plastics).
  3. Never burn waste in the open (dispose of waste properly).
  4. Save electricity and water and support cleaner energy choices.
  5. Plant and protect trees and green spaces.
  6. Spread awareness and follow local environmental rules.
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