

✓ 1. IF Function

The most common logical formula.

Syntax:

```
CopyEdit
=IF(logical_test, value_if_true, value_if_false)
```

Example:

```
=IF(A1>50, "Pass", "Fail")
```

If A1 = 60, the result is "Pass"

2. AND Function

Returns TRUE if all conditions are TRUE, else returns FALSE.

Syntax:

```
=AND(condition1, condition2, ...)
```

Example:

=AND(A1>50, B1<100)

- $A1 = 60, B1 = 90 \rightarrow TRUE$
- A1 = 40, $B1 = 90 \rightarrow FALSE$

✓ 3. OR Function

Returns TRUE if any condition is TRUE, else FALSE.

Syntax:

=OR(condition1, condition2, ...)
$$A1 = 40, B1 = 90 \rightarrow TRUE$$

Example:=OR (A1>50, B1<100)
$$A1 = 40, B1 = 110 \rightarrow FALSE$$



✓ 4. NOT Function

Reverses the result: TRUE becomes FALSE, and vice versa.

Syntax:

=NOT (condition)

Example:

=NOT(A1>50)

If $A1 = 60 \rightarrow \text{returns } \mathbf{FALSE}$

✓ 5. Nested IF

Using multiple IFs inside each other for multiple conditions.

Example:

=IF(A1>80, "A", IF(A1>60, "B", IF(A1>40, "C", "Fail")))

- $A1 = 85 \rightarrow A$
- $A1 = 65 \rightarrow B$
- $A1 = 45 \rightarrow C$
- $A1 = 30 \rightarrow Fail$

✓ 6. IF with AND / OR (Combined)

Example using AND:

=IF(AND(A1>40, B1="Pass"), "Qualified", "Not Qualified")

Example using OR:

=IF(OR(A1>90, B1>90), "Excellent", "Good")





7. IFS Function (Excel 2019 / 365)

Simplifies nested IFs.

Syntax:

```
=IFS(condition1, result1, condition2, result2, ...)
```

Example:

```
=IFS(A1>80, "A", A1>60, "B", A1>40, "C", A1<=40, "Fail")
```



✓ 1. IF + AND

Check multiple conditions before taking an action.

Example:

Check if a student has passed both subjects:

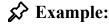
```
=IF(AND(A2>=35, B2>=35), "Pass", "Fail")
```

- A2 = Maths Marks
- B2 = Science Marks



✓ 2. IF + OR

Check if any one condition is true.

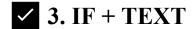


Check if a candidate qualifies based on **age OR experience**:

```
=IF(OR(A2>=25, B2>=5), "Eligible", "Not Eligible")
```

- A2 = Age
- B2 = Years of Experience





Return custom text based on logic.

Example:

Label sales status:

=IF(A2>50000, "High Sales", "Low Sales")

✓ 4. IF + ISBLANK

Check if a cell is empty and respond.

Example:

=IF(ISBLANK(A2), "Missing Data", A2)

Returns "Missing Data" if A2 is blank.

✓ 5. IF + ISNUMBER + SEARCH

Find if a **keyword exists inside a cell** (case-insensitive).

Example:

Check if "error" exists in a comment:

=IF(ISNUMBER(SEARCH("error", A2)), "Check Required", "OK")



✓ 6. IF + LEFT / RIGHT / MID

Analyze part of a text and take action.

Example:

Check if a product code starts with "AB":

=IF(LEFT(A2,2)="AB", "Valid", "Invalid")



✓ 7. IF + MOD

Use for checking even/odd or multiples.

Example:

Check if a number is even:

```
=IF (MOD (A2, 2) = 0, "Even", "Odd")
```

✓ 8. Nested IF + AND + OR

Multiple conditions with AND/OR inside IF.

Example:

```
=IF(AND(A2>=40, OR(B2="Yes", C2="Yes")), "Eligible", "Not Eligible")
```

Passes if marks ≥ 40 and at least one subject is passed.

✓ 9. IF + LEN

Check the **length** of input text.

Example:

```
=IF(LEN(A2)>10, "Too Long", "OK")
```

✓ 10. IFS + ISBLANK / AND / OR

Use multiple condition checking without nesting.

Example:

```
=IFS(
    ISBLANK(A2), "No Data",
    A2<35, "Fail",
    A2<60, "Average",
    A2>=60, "Good"
```

