

Electronic Spreadsheet (MS Excel) - PDF Note - computeroperatorexam.com

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Part 1 — Introduction and Key Facts

MS Excel is a **spreadsheet application** developed by Microsoft. First major spreadsheet: VisiCalc (1979, Apple); Excel launched **1987**.

File Extensions

Version	Workbook	Template
2003 and earlier	.xls	.xlt

Version	Workbook	Template
2007 and later	.xlsx	.xltx
Workspace	.xlw	—

Critical Limits (exam favourites)

Limit	Excel 2003	Excel 2007+
Max rows	65,536	1,048,576
Max columns	256	16,384
Default sheets	3	3
Max chars per cell	32,767	32,767
Default row height	12.75 pt	15 pt
Default column width	8.43 chars	8.43 chars

Default Alignments

- **Numbers** → Right-aligned
- **Text** → Left-aligned
- **Default number format** → General

Part 2 — Data Types

Type	Starts with	Aligned	Example
Value (Number)	digit	Right	1500
Label (Text)	letter or ' '	Left	"Hari"
Formula	=	Right (result)	=SUM(A1:A5)
Date/Time	date/time entry	Right	13-Apr-2026

Part 3 — Operators

Category	Operators
Arithmetic	+ - * / % ^ MOD

Category	Operators
Comparison	= > < >= <= <> → returns TRUE/FALSE
Text / Concatenation	& joins strings
Reference	: (range), , (union), space (intersection)
Logical	AND , OR , NOT

Part 4 — Cell Referencing

Type	Syntax	Changes when copied?
Relative	A1	Row AND column adjust
Absolute	\$A\$1	Neither changes
Mixed (col fixed)	\$A1	Row changes, column stays
Mixed (row fixed)	A\$1	Column changes, row stays

F4 cycles through all four types.

Part 5 — Cell Editing Modes

Mode	Trigger	Status bar shows
Ready	Default/idle	Ready
Enter	Double-click blank cell / start typing	Enter
Edit	Press F2 / double-click filled cell	Edit
Point	Type formula then click a cell	Point

Ribbon buttons are **disabled** in Edit, Enter, Point modes.

Part 6 — Functions Quick Reference

Numeric

SUM , AVERAGE , MAX , MIN , COUNT , PRODUCT , MOD , ABS , ROUND , ROUNDUP , ROUNDDOWN , SQRT ,
FACT , EVEN , ODD , SIGN

Logical

```
=IF(condition, true, false)
=IF(AND(c1,c2,...), true, false)
=IF(OR(c1,c2,...), true, false)
```

Conditional Aggregates

```
=COUNTIF(range, "criteria")
=SUMIF(range, criteria, sum_range)
```

Lookup

```
=VLOOKUP(lookup_val, table_array, col_index, FALSE)
```

String

CONCATENATE , LEN , LOWER , UPPER , PROPER , SUBSTITUTE , REPLACE , SEARCH , VALUE , REPT

Date/Time

TODAY() , NOW() , DATE() , TIME() , DAY , MONTH , YEAR , HOUR , MINUTE , SECOND , WEEKDAY ,
WORKDAY , NETWORKDAYS

Part 7 — Chart Types

Chart	Use
Column	Compare values across categories (vertical bars)
Bar	Compare values — horizontal bars; good for long labels
Line	Trend over time
Pie	Parts of a whole (one data series only)
Area	Emphasize magnitude of change over time
Scatter (XY)	Correlation between pairs of values
Radar	Compare variables not directly comparable

Part 8 — Error Codes

Code	Cause
#DIV/0!	Division by zero or empty cell
#NAME?	Unrecognized function or range name
#N/A	Value not available
#NULL!	Wrong range separator
#NUM!	Invalid numeric argument
#REF!	Invalid cell reference
#VALUE!	Wrong data type in formula

Part 9 — What-If Analysis

Tool	You know	Excel finds	Limit
Scenario Manager	Multiple input sets	Results per scenario	Up to 32 changing cells
Goal Seek	Target result	Required input	1 variable
Data Table	Range of inputs	All results at once	1 or 2 variables

Part 10 — Key Data Tools Summary

Tool	Tab	Purpose
Sort	Data	Order records A → Z or Z → A
Filter / Advanced Filter	Data	Show selected data rows only
Data Validation	Data	Restrict cell inputs; create dropdowns
Text to Columns	Data	Split one column into multiple
Remove Duplicates	Data	Delete duplicate rows
Consolidate	Data	Combine multiple ranges into one
Group/Ungroup	Data	Collapse/expand rows or columns
Subtotal	Data	Auto-insert group subtotals
Freeze Panes	View	Lock rows/columns while scrolling

Tool	Tab	Purpose
Pivot Table	Insert	Summarise and analyse large data
