G.C.E. O/L Grade 10 ICT · Lesson 7

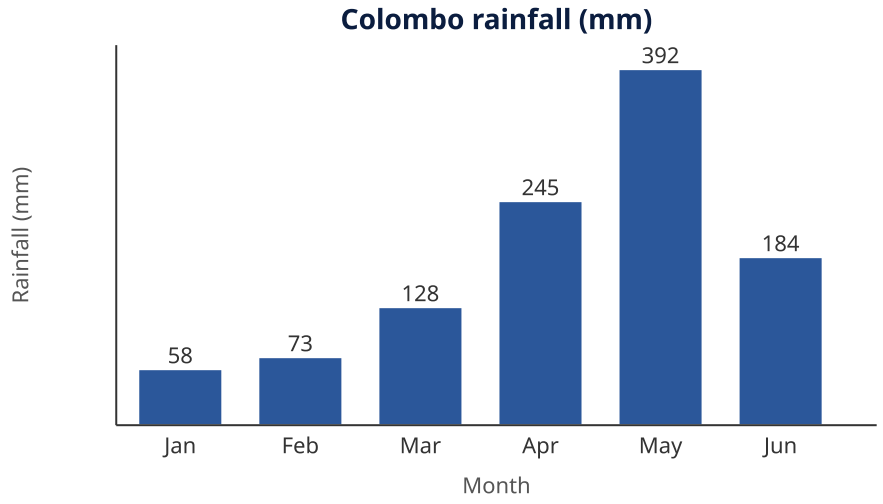
7.7 Spreadsheet Charts: Column, Bar, Line and Pie

A **chart** shows numbers as a picture so patterns are easy to see. You select the data range (labels + values) and choose Insert → Chart. This note uses Colombo rainfall (Jan–Jun, total 1080 mm), student ICT marks and the shop bill to build column, bar, line and pie charts, and shows which chart fits which data.

1. Making a chart

- Select A1:B7 (month names and rainfall).
- **Excel**: Insert → Charts → Column. **Calc**: Insert → Chart (Chart Wizard). **Sheets**: Insert → Chart, then Chart editor → Chart type.
- The chart is linked: change B6 and the chart updates.

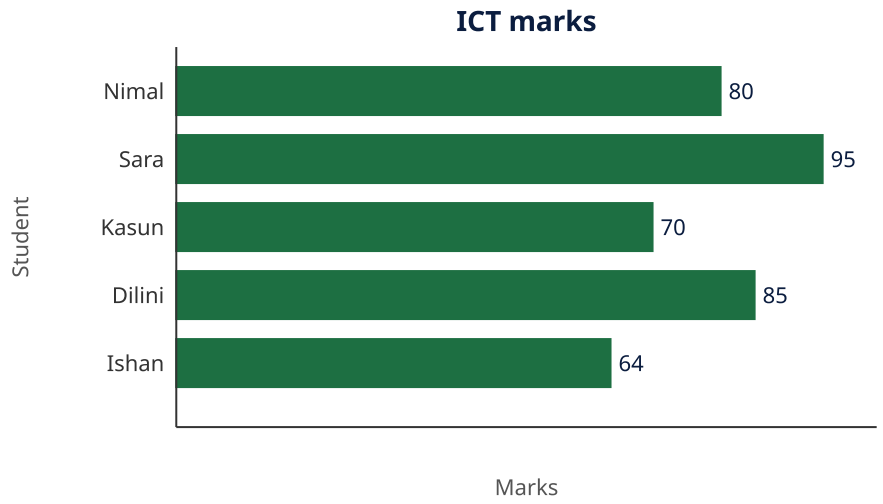
2. Column chart



Column chart: vertical bars compare rainfall in each month. May is highest (392 mm), January lowest (58 mm).

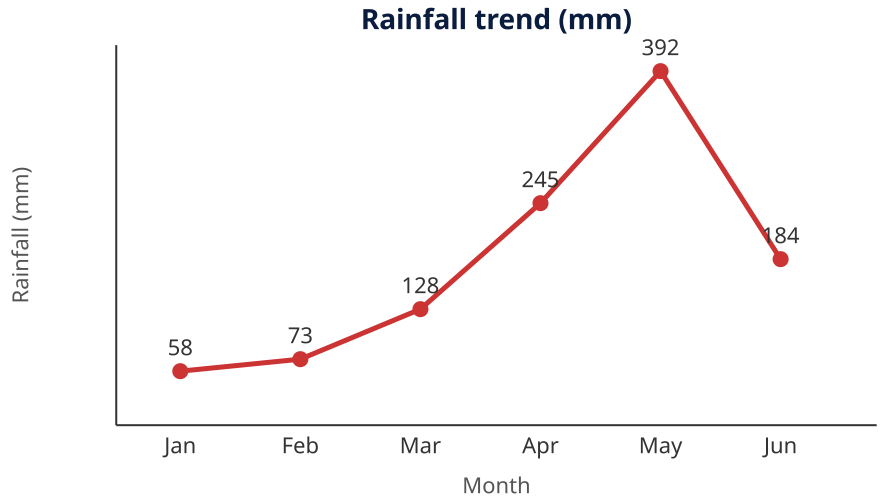
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3. Bar chart



Bar chart: horizontal bars compare ICT marks; good when labels (names) are long.

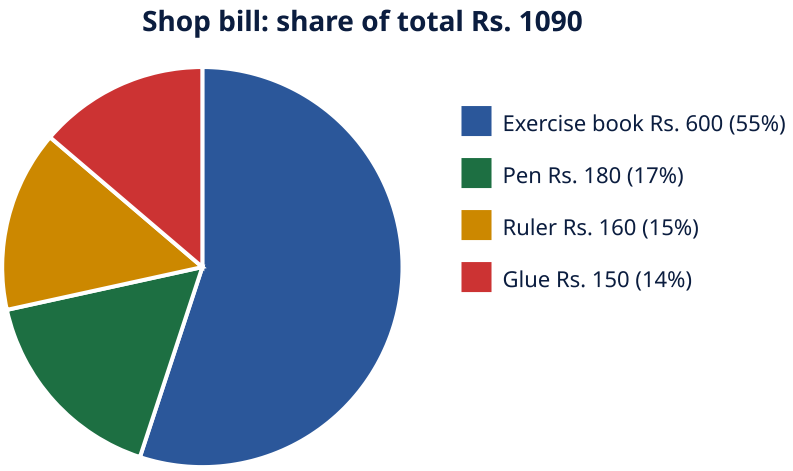
4. Line chart



Line chart: shows the trend over time – rainfall rises to May with the south-west monsoon, then falls in June.

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5. Pie chart



Pie chart: parts of a whole – how the Rs. 1090 bill is shared. Exercise books are Rs. 600 (about 55%).

6. Which chart for which data?

Chart	Best for	Example
Column	Comparing categories (vertical)	Rainfall per month
Bar	Comparing categories with long labels (horizontal)	Marks of students
Line	Trend / change over time	Temperature over a week
Pie	Parts of one whole (one data series)	Share of the bill

7. Chart elements

- **Chart title** – what the chart shows.
- **Axis titles** – e.g. horizontal (x) axis “Month”, vertical (y) axis “Rainfall (mm)”.
- **Legend** – key that names each data series or pie slice.
- **Data labels** – the value written on each bar, point or slice.
- Excel: Chart Elements (+) button. Calc: Insert → Titles/Legend/Data Labels in edit mode. Sheets: Chart editor → Customise.

> NEW 2026 2026: Excel **Copilot/Analyze Data** and Sheets **Explore**/Gemini can suggest charts. Always check that the suggested chart type suits the data and that titles and units are correct.

Key Words

Chart – A picture of data from a range of cells.

Column chart – Vertical bars comparing categories.

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Bar chart – Horizontal bars comparing categories.	**Line chart** – Points joined by a line to show a trend over time.
Pie chart – A circle divided into slices showing parts of a whole.	**Data series** – A set of related values plotted together.
Chart title – Heading that says what the chart shows.	**Axis title** – Label for the horizontal or vertical axis.
Legend – Key naming each series or slice.	**Data labels** – Values shown on bars, points or slices.
X-axis – Horizontal axis, usually categories or time.	**Y-axis** – Vertical axis, usually values.

Sample Q&A

1. Which chart shows a trend over time?

> **Answer:** A line chart.

2. Which chart shows parts of a whole?

> **Answer:** A pie chart.

3. Difference between a column and a bar chart?

> **Answer:** Column bars are vertical; bar chart bars are horizontal.

4. Name four chart elements.

> **Answer:** Chart title, axis titles, legend, data labels.

5. Which month had the most rain and how much?

> **Answer:** May, 392 mm.

6. What happens to a chart if the data changes?

> **Answer:** It updates automatically because it is linked to the cells.

MCQ

1. Best chart for monthly temperature over a year?

A. Line
B. Pie
C. None
D. Bar only

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2. Best chart for share of a household budget?

A. Line
B. Scatter
C. Column
D. Pie

3. A chart with horizontal bars is a…

A. Line chart
B. Bar chart
C. Pie chart
D. Column chart

4. The key that names each series is the…

A. Data label
B. Gridline
C. Legend
D. Axis title

5. Values written on each column are…

A. Data labels
B. Chart title
C. Legend
D. Axis

6. Total Jan–Jun rainfall (B2:B7) is…

A. 180 mm
B. 1080 mm
C. 980 mm
D. 1180 mm

7. =AVERAGE(B2:B7) for the rainfall is…

A. 216
B. 392
C. 180
D. 1080

8. =MAX(B2:B7) − =MIN(B2:B7) for the rainfall is…

A. 264
B. 319
C. 450
D. 334

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9. In the pie chart, exercise books (Rs. 600 of 1090) are about…

A. 55%
B. 45%
C. 50%
D. 60%

10. In Excel, which menu inserts a chart?

A. Insert
B. View
C. Home
D. Review

11. The label 'Rainfall (mm)' on the vertical axis is an…

A. Data label
B. Chart title
C. Axis title
D. Legend

12. Before inserting a chart you must first…

A. Save as PDF
B. Sort Z to A
C. Select the data range
D. Delete the labels

13. A pie chart can show how many data series?

A. Two
B. One
C. Five
D. Any number

14. In LibreOffice Calc a chart is made with…

A. Format → Cells
B. Tools → Macros
C. Data → Sort
D. Insert → Chart

15. When B6 (May) changes, the chart…

A. Must be redrawn
B. Updates automatically
C. Is deleted
D. Shows #REF!

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Structured Questions

1. Name the most suitable chart for each: (a) rainfall trend over months (b) share of a bill (c) marks of five students. *(3 marks)*

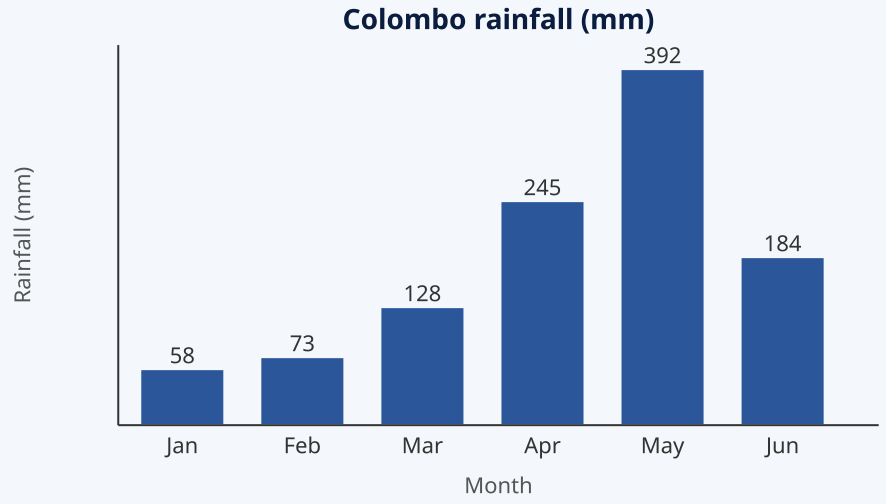
> (a) Line (b) Pie (c) Column or bar.

2. Describe the steps to make a column chart of A1:B7 in Excel. *(3 marks)*

> Select A1:B7 → Insert → Charts → Column → add title and axis titles.

3. Label the elements of the column chart shown. *(4 marks)*

> Chart title 'Colombo rainfall (mm)'; x-axis title 'Month'; y-axis title 'Rainfall (mm)'; data labels on each column.



Model answer.

4. Give formulas for the total, average and highest rainfall in B2:B7 and their results. *(3 marks)*

> =SUM(B2:B7) = 1080; =AVERAGE(B2:B7) = 180; =MAX(B2:B7) = 392.

5. Why should you check a chart suggested by Copilot or Analyze Data? *(2 marks)*

> AI may choose an unsuitable chart type, wrong range or missing units; the user is responsible for accuracy.

Summary

- Charts turn numbers into pictures.
- Select labels + values, then Insert → Chart.
- Column: vertical bars comparing categories.
- Bar: horizontal bars, good for long labels.
- Line: trend over time.

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- Pie: parts of one whole.
- Elements: title, axis titles, legend, data labels.
- Charts update when data changes; check AI-suggested charts.

MCQ answer key – 7.7

1. **A** – Trend.
2. **D** – Parts of whole.
3. **B** – Horizontal.
4. **C** – Legend.
5. **A** – Data labels.
6. **B** – =SUM(B2:B7).
7. **C** – 1080 ÷ 6.
8. **D** – 392 − 58.
9. **A** – 600 ÷ 1090 × 100.
10. **A** – Insert → Charts.
11. **C** – Axis title.
12. **C** – Select data.
13. **B** – One series.
14. **D** – Chart Wizard.
15. **B** – Linked.

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