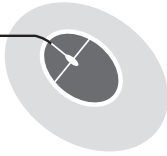




Formulas and Functions with Excel 2013



LEARNING OUTCOMES

After the lesson, students will be able to:

- » Use formulas to do calculations.
- » Use functions in a spreadsheet.
- » Create simple cell formulas.
- » Make cell references.

WARM UP

Write down the various formulas of exponents and powers you have studied in mathematics.

Ans. Students can do this with the help of the teacher.

CHAPTER NOTES

- » Microsoft Excel 2013 workbook lets you summarise values in related cells.
- » It makes it easy to reference a number of cells at once, letting you build your calculations quickly.
- » There are two basic ways to perform calculations in Excel: Formulas and Functions.
- » In Excel, a formula is an expression that operates on values in a range of cells or a cell.
- » Functions are predefined formulas in Excel. They eliminate laborious manual entry of formulas while giving them human-friendly names.

- » The SUM function usually aggregates values from a selection of columns or rows from your selected range.
- » The AVERAGE function finds the average of a given range, such as the average number of marks scored by the students of a class in a particular subject.
- » The COUNT function counts all the cells in a given range that contains only numeric values.
- » COUNTA counts all the cells in a given range. However, it counts the cells regardless of type. Unlike COUNT, which only counts numeric values, it also counts dates, times, strings, logical values, errors, empty strings or text.
- » The MAX and MIN functions help in finding the maximum number and the minimum number in a range of values.
- » A cell reference refers to the value of a cell or cell range on the current worksheet or a different worksheet within the spreadsheet.
- » A cell reference can be used as a variable in a formula. In one or several formulas, you can use a cell reference to refer to:
 - Data from one or more contiguous cells in the worksheet.
 - Data contained in different areas of a worksheet.
 - Data in other worksheets of the same workbook.
- » There are three types of cell references: relative, absolute and mixed reference.
- » By default, all cell references are relative references. When copied across multiple cells, they change based on the relative position of rows and columns.
- » Absolute references do not change when copied or filled.
- » You can use an absolute reference to keep a row and/or column constant.
- » An absolute reference is designated in a formula by the addition of the dollar sign (\$).
- » Sometimes, we need a combination of relative and absolute references, called mixed reference.

DEMONSTRATION

- » Use formulas to do calculations
- » Use functions in a spreadsheet
- » Create simple cell formulas
- » Make cell references

LAB ACTIVITIES

- » Create a worksheet with data of all the students of your class and their marks in three subjects: Hindi, English and Math. Use the AutoSum feature to total and calculate the percentage and average marks scored by each student.
- » Using different formulas, calculate the average height and weight of the students in your class. Determine the maximum, minimum and average height and weight.
- » Use the MAX function to find the largest number in a range.
- » Use the TODAY function to display today's date.
- » Name a sheet in Excel.

ASSESSMENT

Teacher can take a short oral quiz to test the students on the various formulas and functions used in Excel.