

# NIELIT Gorakhpur

**Course Name: O Level (1st Sem)**

**Subject: ITTNB**

**Topic: cell references**

**Date: 17-06-2020**

## **Libreoffice [Calc]**

**Cell Reference:-** It means the address of cell. There are two types of cell references: relative and absolute.

**Relative references:-** By default, all cell references are relative references. When copied across multiple cells, they change based on the **relative** position of rows and columns. For example, if you copy the formula =A1+B1 from row 1 to row 2, the formula will become =A2+B2. Relative references are especially convenient whenever user need to repeat the same calculation across multiple rows or columns.

	A	B	C
1	5	3	=A1+B1
2	7	23	=A2+B2
3	12	9	=A3+B3

	A	B	C
1	5	3	8
2	7	23	30
3	12	9	21

**Absolute references:-** There are occasions when user don't want a cell reference to change when copied to other cells. Unlike relative references, absolute references do not change when copied or filled. User can use an absolute reference to keep a row and/or column constant. To create an absolute reference in a formula we add the dollar sign (\$) before the column reference, the row reference, or both.

\$A\$2	the column and the row do not change when copied
A\$2	the row does not change

\$A2	the column does not change
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The spreadsheet shown in the image calculates the Tax using the formula

$$\text{Tax} = \text{Line Total} * \text{Tax Rate} = D3 * C8$$

QUANTITY	PRICE PER UNIT	LINE TOTAL	TAX
5	4,00 €	20,00 €	=D3*C8
3	7,00 €	21,00 €	
12	10,00 €	120,00 €	
Tax Rate	24,00%		

If user use autofill to calculate the tax for the remaining items, then we see that on the second line the reference for the Tax Rate becomes C9. This leads to error in our formula because we want the Tax Rate cell C8 to remain constant.

QUANTITY	PRICE PER UNIT	LINE TOTAL	TAX
5	4,00 €	20,00 €	4,80 €
3	7,00 €	21,00 €	=D4*C9
12	10,00 €	120,00 €	0,00 €
Tax Rate	24,00%		

because of relative reference the cell is C9 when autofilled and not the cell C8.

For this reason we change the initial tax calculation formula to use absolute reference C\$8 for the tax rate cell. In this way we get the correct results when we update with autofill the remaining cells.

QUANTITY	PRICE PER UNIT	LINE TOTAL	TAX
5	4,00 €	20,00 €	=D3*C\$8
3	7,00 €	21,00 €	5,04 €
12	10,00 €	120,00 €	28,80 €
Tax Rate	24,00%		

## Assignment:-

- 1- Why cell addressing is essential in LibreOffice calc?
- 2- Explain cell addressing in LibreOffice calc.