

PROFIT AND LOSS



DEFINITIONS AND CONCEPTS

Cost price: The money paid by a shopkeeper to buy goods from a manufacturer or wholesaler is called the cost price or purchase price of the shopkeeper. The cost price is also called the C.P. in short.

Selling price: The price at which a shopkeeper sells the goods is called the selling price of the shopkeeper. The selling price is also called the S.P. in short.

Profit: If the purchase price of the goods by a shopkeeper is less than the selling price, then it is called a profit situation.

$$\text{Profit} = \text{Selling price} - \text{Purchase price}$$

Loss: If the selling price of an item is less than the purchase price, then it is called a loss situation.

$$\text{Loss} = \text{Purchase price} - \text{Selling price}$$

Note:

- Profit = Selling price – Purchase price
- Loss = Purchase price – Selling price
- Percentage profit = $\left(\frac{\text{Profit}}{\text{Cost Price}} \times 100 \right) \%$
- Percentage loss = $\left(\frac{\text{Loss}}{\text{Cost Price}} \times 100 \right) \%$
- **Effective cost price:** If any additional expenditure like labor, repairs etc. is incurred on the goods before selling them, then these are added to the purchase price in calculation of profit or loss, which is called effective cost price.
- **Effective cost price = Purchase price + Overhead expenses**
- $\text{C.P.} = \frac{100}{(100 + \text{Profit } \%)} \times \text{S.P.}$ & $\text{C.P.} = \frac{100}{(100 - \text{Loss } \%)} \times \text{S.P.}$

DISCOUNT

Discount means reduction in price. This reduction is always given on the Marked Price or List Price.

- When a discount is offered on an item, we calculate the selling price (SP) as follows:

- Selling Price = Marked Price – Discount
- Discount = List Price – Selling Price
- Discount = $\frac{\text{Marked Price} \times \text{Rate Of Discount}}{100}$

$$\text{Discount \%} = \frac{\text{Discount} \times 100}{\text{M.P.}}$$

$$\text{S.P.} = \text{Marked Price} \times \left(\frac{\text{Discount} \times 100\%}{\text{Marked Price}} \right)$$

$$\text{Mark Price} = \left(\frac{100 \times \text{S.P.}}{100 - \text{Discount \%}} \right)$$

- If the selling price of two articles is equal and one of them is sold at $x\%$ profit and the other at $x\%$ loss, then there is always a loss which is equal to loss or profit

$$\left(\frac{\text{Profit Or Loss \%}}{10} \right)^2 = \frac{x^2}{100} \%$$

- Two successive discounts of $x\%$ and $y\%$ on an article are equal to a single discount $\left(x + y - \frac{xy}{100} \right) \%$.
- This discount is always less than the sum of the individual discounts.

Example: Anuj bought a second-hand typewriter for ₹1200. He spent ₹200 on its repairs. He sold it for ₹1680. Find his profit or loss. What was his profit or loss percentage?

Solution: According to the question,

Cost price = $(1200 + 200) = ₹1400$

And Selling price = ₹1680

Since, S.P. > C.P.

So, Profit = S.P. – C.P. = ₹1680 – ₹1400 = ₹280

∴ Percentage Profit = $\left(\frac{\text{Profit}}{\text{C.P.}} \times 100 \right) \% = \left(\frac{280}{1400} \times 100 \right) \% = 20\%$.