Profit, Loss and Discount Formulae

Profit, Loss and Discount:
• Profit, Loss and Discount concept takes place in front of you every time you make a purchase, every shopkeeper calculates it at the end of the day.
• This document covers various formulas, tips and shortcuts of Profit, Loss and Discount topic.

Cost Price:
The amount paid to purchase an article or the cost of manufacturing an article is called Cost Price (C.P.)
Selling Price:
The price at which a product is sold is called Selling Price (S.P.)
Marked Price:
The price at which an article is marked is called Marked Price (M.P.)
Profit:
Profit is incurred on selling a product, when Selling Price of the product is more than its Cost Price.
Loss:
Loss is incurred on selling a product, when Selling Price of the product is less than its Cost Price.
Discount:
It is the reduction in Selling Price of a product.
Successive Discount:
It is the discount offered on an already discounted product.

• If S.P. > C.P., then Profit or Gain, P = S.P. − C.P.
• If C.P. > S.P., then Loss, L = C.P. − S.P.
• Percentage Profit or Gain Percentage or Profit Percentage $= \frac{\text{Profit}}{\text{C.P.}} \times 100$
• Percentage Loss $= \frac{\text{Loss}}{\text{C.P.}} \times 100$
• Discount = M.P. − S.P. (If no discount is given, then M.P. = S.P.)
• Percentage Discount $= \frac{Discount}{\text{M.P.}} \times 100$
• Total increase in price due to two subsequent or successive increases of X% and Y% $= (X + Y + \frac{XY}{100})$
• If two items are sold at same price, each at Rs. x, one at a profit of P% and other at a loss of P%, then there will be overall loss of $\frac{P^2}{100}$%. And the absolute value of loss $= \frac{2P^2 x}{100^2 - P^2}$.

- If C.P. of two items is same, and by selling of each item a person earned p% profit on one article and p% loss on another, then there will no loss or gain.
- If a trader professes to sell at C.P. but uses false weight, then:

Gain percentage $= \frac{Error}{True\ Value - Error} \times 100$

- S.P. $= \frac{100 + Profit\ Percent}{100} \times$ C.P. (If S.P. > C.P.)

- S.P. $= \frac{100 - Loss\ Percent}{100} \times$ C.P. (If S.P. < C.P.)

- C.P. $= \frac{100 \times S.P.}{100 + Profit\ Percent}$ (If S.P. > C.P.)

- C.P. $= \frac{100 \times S.P.}{100 - Loss\ Percent}$ (If S.P. < C.P.)

- Buy x get y free, then Percentage Discount $= \frac{y}{x + y} \times 100$

(Here, (x + y) articles are sold at C.P. of x articles)

- When there are two successive discounts of X% and Y%, then

Resultant discount $(X + Y - \frac{XY}{100})$

- If C.P. of x article is equal to the selling price of y articles, then

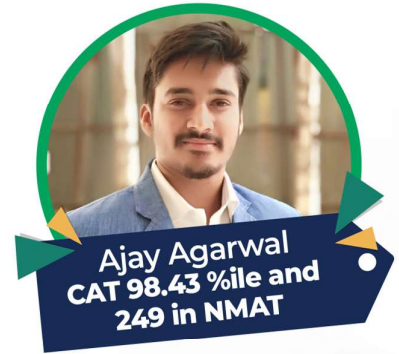Resultant Profit Percent or Loss Percent $= \frac{y - x}{y} \times 100$.

Gradeup Achievers' Corner

Bharath Reddy
CAT 99.92 %ile

Lalit Singhal
CAT 99.1 %ile

Ajay Agarwal
CAT 98.43 %ile and 249 in NMAT

Simran Dhawan
CAT 98.3 %ile

Vijay Chitlangia
269 in NMAT

Pooja Manoj
253 in NMAT

Nishith Bhat
243 in NMAT

Nayanika Sharma
250 in NMAT