Tips, Formulae and shortcuts for Profit, Loss and Discount

By

CRACKU.IN

Cracku Tip 1 – Profit, Loss and Discount

- Profit, Loss and Discount is very important topic for CAT and significant number of questions are asked from this topic every year.

- The number of concepts in these topics is limited and most of the problems can be solved by applying the formulae directly

- This document covers various formulas, tips and shortcuts of Profit, Loss and Discount topic.

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Cracku Tip 2 – Profit, Loss and Discount

▪ **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)

Cracku Tip 3 – Profit, Loss and Discount

- If S.P>C.P, then Profit or Gain, P = S.P – S.P

- If C.P>S.P, then Loss, L = C.P – S.P

- % Profit or Gain percentage or Profit Percentage = $\dfrac{\text{Profit}}{\text{C.P}} \times 100$

- %Loss = $\dfrac{\text{Loss}}{\text{C.P}} \times 100$

- Discount = M.P – S.P (If no discount is given, then M.P = S.P)

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

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Cracku Tip 4 – Profit, Loss and Discount

- Total increase in price due to two subsequent increases of X% and Y% is $(X+ Y+ \frac{X\,Y}{100})\%$

- 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 $\frac{P^2}{100}\%$

  The absolute value of loss $= \frac{2P^2x}{100^2-P^2}$

Cracku Tip 5 – Profit, Loss and Discount

- If C.P of two items is same, and by selling of each item he earned p% profit on one article and p% loss on another, then the there will be no loss or gain.

- If a trader professes to sell at C.P but uses false weight, then

$$\text{Gain\%} = \frac{\text{Error}}{\text{True value} - \text{Error}} \times 100$$

Cracku Tip 6 – Profit, Loss and Discount

- S.P = ($\dfrac{100 + \text{Profit\%}}{100}$) C.P (If S.P > C.P)

- S.P = ($\dfrac{100 - \text{Loss\%}}{100}$) C.P (If S.P < C.P)

- C.P = $\dfrac{100 \times \text{S.P}}{100 + \text{Profit\%}}$ (If S.P > C.P)

- C.P = $\dfrac{100 \times \text{S.P}}{100 - \text{Loss\%}}$ (If S.P < C.P)

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Cracku Tip 7 – Profit, Loss and Discount

- Buy x get y free, then the %discount = $\dfrac{y}{x+y} \times 100$.

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

- When there are two successive discounts of a% and b% are given then the,

$$\text{Resultant discount} = \left(a + b - \dfrac{a*b}{100}\right)$$

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

$$\text{Resultant profit \% or loss \%} = \dfrac{y-x}{y} \times 100$$

Cracku Tip 6 – Quadratic Equations

- Minimum and maximum values of $ax^2+bx+c = 0$

- If a > 0: minimum value = $\dfrac{4ac-b^2}{4a}$ and occurs at x = -b/2a

- If a < 0: maximum value = $\dfrac{4ac-b^2}{4a}$ and occurs at x = -b/2a

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