DISCOUNT

Importance : 'Discount' questions are special type of Profit and Loss questions. But as question on this type are regularly asked, hence it is suitable to give it as a separate chapter.

Scope of questions : Questions include/discount, successive discount, equivalent discount, C.P./S.P. after discount. Also questions based on special type, like comparison between two discount or comparisons of 'discount' and no discount' conditions are also asked.

Way to success: Note that all calculations of % discount are done on **'Marked'** price and not on C.P./S.P. use formulae for speedy answers. It is important to expertise in identification on all type of questions.

RULE 1 : If Marked Price = (MP)

Selling Price = (SP)

Then, Discount = MP – SP and

$$\text{Discount\%} = \frac{\text{Discount}}{\text{MP}} \times 100$$

$$\text{Discount\%} = \frac{\text{Marked Price} - \text{Selling Price}}{\text{Marked Price}} \times 100$$

Note: Any kind of Discount is calculated only on marked price and not on selling price or cost price.

RULE 2 : If article is sold on D% discount, then

$$\text{SP} = \frac{\text{MP}(100-\text{D})}{100},$$

$$\text{MP} = \frac{\text{SP} \times 100}{100-\text{D}}$$

RULE 3 : When successive Discounts D_1, D_2, D_3, so on, are given then

$$\text{SP} = \text{MP}\left(\frac{100-D_1}{100}\right)\left(\frac{100-D_2}{100}\right)\left(\frac{100-D_3}{100}\right)$$

RULE 4 : If D_1, D_2, D_3 are successive discounts, then equivalent discount/overall discount is (in percentage)

$$100-\left[\left(\frac{100-D_1}{100}\right)\left(\frac{100-D_2}{100}\right)\left(\frac{100-D_3}{100}\right)\times 100\right]$$

RULE 5 : (Special Case) : When two successive disounts are given, then overall discount is

$$=\left(D_1+D_2-\frac{D_1D_2}{100}\right)\%$$

RULE 6 : If r% of profit or loss occur after giving D% discount on marked price, then $\frac{\text{MP}}{\text{CP}} = \frac{100 \pm r}{100-D}$

(positive sign for profit and negative for loss)

RULE 7 : 'y' articles (quantity/number) are given free on purchasing 'x' articles. Then, Discount% = $\frac{y \times 100}{x+y}$

RULE 8 : A tradesman marks his goods r% above his cost price. If he allows his customers a discount of r_1% on the marked price. Then is profit or loss per cent is

$$\frac{r \times (100-r_1)}{100} - r_1$$

(Positive sign signifies profit and negative sign signifies loss).

RULE 9 : The marked price of an article is fixed in such a way that after allowing a discount of r% a profit of R% is obtained. Then the marked price of the article is $\left(\frac{r+R}{100-r} \times 100\right)$% more than its cost price.