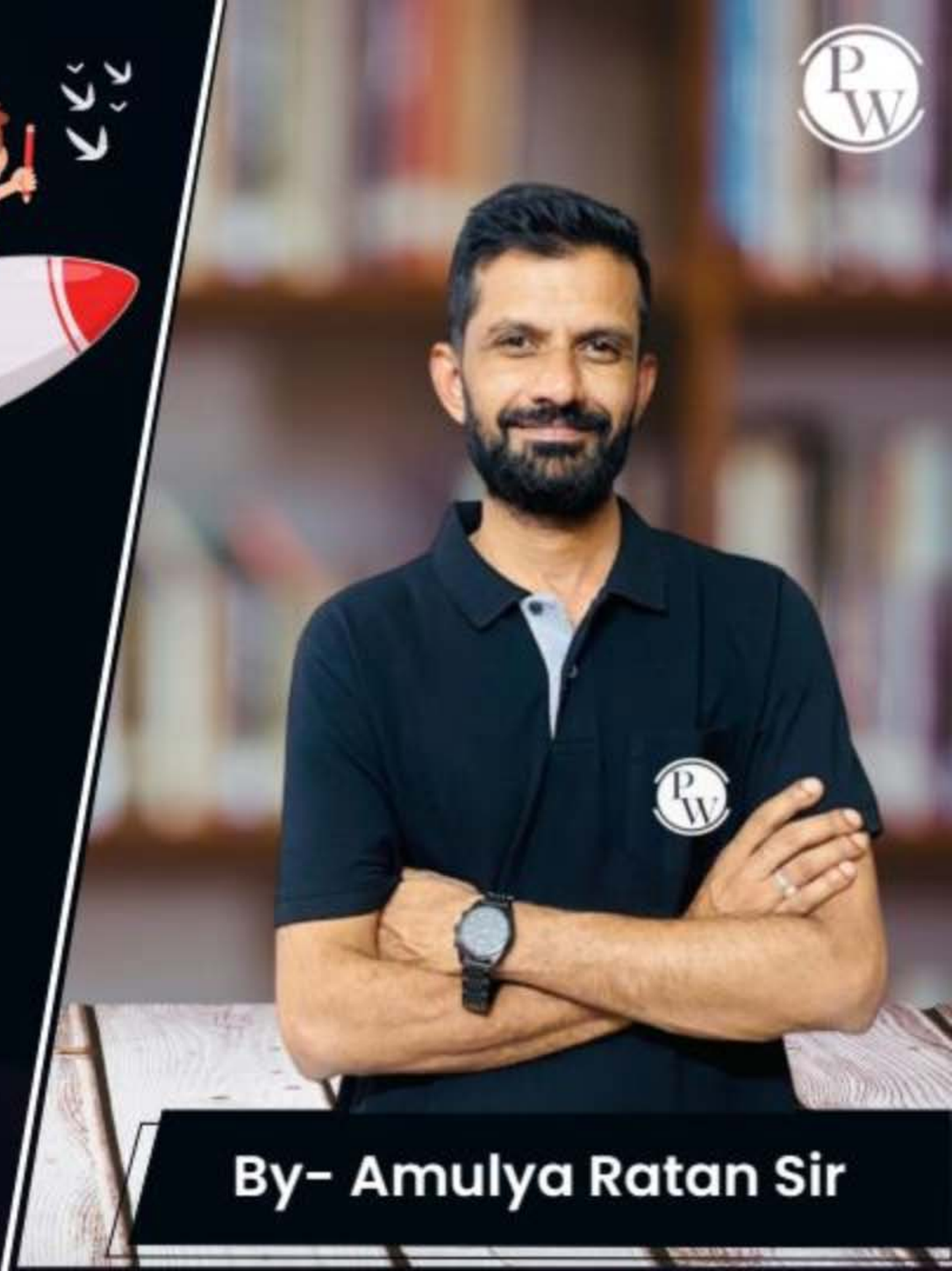
GATE

ALL BRANCHES

General Aptitude

QUANTITATIVE APTITUDE

Lecture No.- 05



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Recap of Previous Lecture

Topic Percentages

Topics to be Covered

Topic-1 Profit & Loss

Topic-2 Discount

PROFIT & LOSS

→ Traders, Businessmain

Cost Price
Investment C.P.

Return
S.P.

M.P.
Marked

gain / profit ×

loss ×

discount

C.P < S.P → P g. / P.
C.P > S.P → L
C.P = S.P → No P No L

l.

M.P. { < Labelled
       = List
       < Tagged

d.

PROFIT & LOSS

S.P. > C.P = Profit

S.P. < C.P. = Loss

S.P. = C.P. = No Profit No Loss

$\frac{S.P}{C.P} > 1$

$\frac{S.P}{C.P} < 1$

$\frac{S.P}{C.P} = 1$

$\frac{S.P}{C.P}$

PROFIT & LOSS

Note:

Profit or loss percentage is to be applied always to the Cost Price only.

Discount percentage is to be applied always to the Marked Price only.

[MCQ]

S.P : C.P = 8 : 5

#Q. If selling price and cost price are in the ratio 8:5, then find the profit% or loss%.

$$\frac{S.P}{C.P} = \frac{8}{5} = 1.6$$

60% P

.6

[MCQ]

#Q. A Fruit seller purchases 11 orange for Rs. 10 and sells 10 orange for Rs. 11. If he follows the same process, then, find his profit or loss%?

$C.P = \frac{10}{11}$

$S.P = \frac{11}{10}$

$\frac{S.P}{C.P} = \frac{11}{10} \div \frac{10}{11}$

$= \frac{11}{10} \times \frac{11}{10} = \frac{121}{100} = 1.21$

10% P 10% P

$1.1 \times 1.1 = 1.21$

21% P

$\frac{S.P}{C.P}$

[MCQ]

#Q. A milk vendor purchases milk at Rs. 72/ litre, and sells at Rs. 60/ litre. For every 1 litre milk he adds 200ml. of water. While selling milk he cheats 200ml. in 1 liter measurement. Find his Profit or Loss percentage.

25% Profit $\frac{S.P.}{C.P} = \frac{60}{72} \times \frac{1200}{1000} \times \frac{1000}{800}$

$= \frac{5}{4} = 1.25$

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

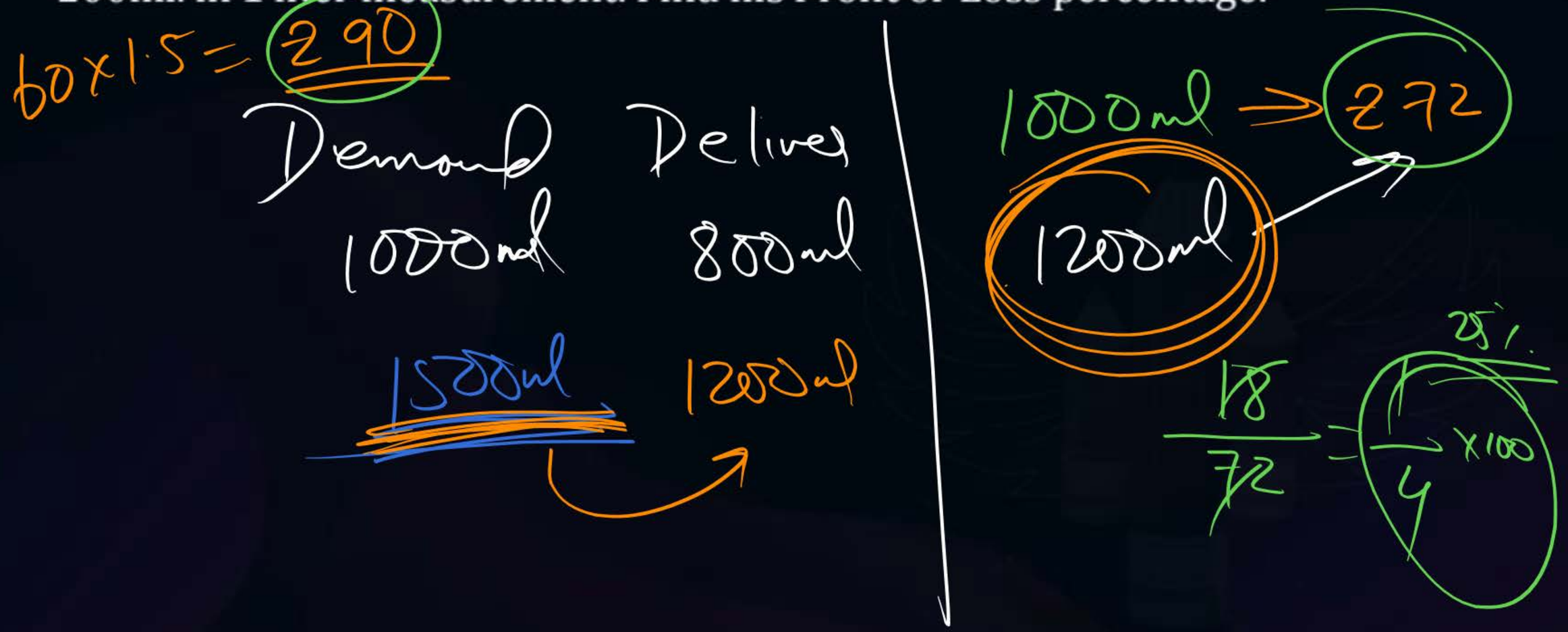
$$= \left(\frac{S.P - C.P}{C.P}\right) \times 100$$

$$= \left(\frac{S.P}{C.P} - \frac{C.P}{C.P}\right) \times 100$$

$$= \left(\frac{S.P}{C.P} - 1\right) \times 100$$

[MCQ]

#Q. A milk vendor purchases milk at Rs. 72/ litre, and sells at Rs. 60/ litre. For every 1 litre milk he adds 200ml. of water. While selling milk he cheats 200ml. in 1 liter measurement. Find his Profit or Loss percentage.



[MCQ]

#Q. A cloth merchant purchases cloth at ₹80/meter and sells at ₹100/meter. As a festive offer, he gives 50% extra free on every demand. Find his proft% or loss%.

A. 25% profit

B. 8.33% profit

C. 16.66% loss

D. 83.33% profit

$1 - 0.8\overline{3}$

$\frac{S.P}{C.P} = \frac{100}{80} \times \frac{2}{3} = \frac{5}{6}$

$= 0.8\overline{3}$

$\frac{10}{15} = \frac{3}{4.5} = \frac{6}{9}$

$16.\overline{6}\% \text{ loss}$

[MCQ]

#Q. Due to downfall in the market, 'A' sells mangoes to 'B' saying "FOR EVERY 12 MANGOES, COUNT AS 8". Due to overnight demand, 'A' took his mangoes back from 'B' saying " FOR EVERY 8 MANGOES, COUNT AS 12". Find the profit or loss percent of 'A'.

$$\frac{S.P}{C.P} = \frac{8}{12} \times \frac{8}{12}$$

$$= \frac{4}{9} = 0.\overline{4}$$

$$0.555556$$

$$55.5\overline{5}\%$$

PROFIT & LOSS

Note:

A trader may sometimes have multiple profits or losses simultaneously.

This is equivalent to having multiple changes and so all individual changes are to be multiplied to get the overall effect.

[MCQ]

$C.P = \frac{10}{15}$ $\quad S.P = \frac{12}{12} = 1$

#Q. Sunidhi bought 15 apples for Rs.10 and sold them at the rate of 12 apples for Rs.12. What is the percentage of profit made by her?

$\frac{S.P}{C.P} = 1 \times \frac{15}{10} = 1.5$

A 100%

B 150%

C 125%

D None of these

50% Profit

[MCQ]

#Q. A shopkeeper advertises for selling cloth at 4% loss. However by using a false meter scale he actually gains 25%. What is actual length of scale?

100 cm

A 76.8 cm

B 77.8 cm

C 74.8 cm

D 75.8 cm

$$\frac{S.P}{C.P} = 0.96 \times \frac{100}{x} = 1.25$$

$$\Rightarrow \frac{96}{1.25} = x \qquad \therefore x = 76.8$$

$$\Rightarrow \frac{9600}{125} = x$$

[MCQ]

#Q. A man sells an article at a profit of 20%. If he had bought it at 10% less and sold it for Rs. 18 more, he would have gained 40%. Find the cost price of the article.

$S.P = 1.2\,C.P$

$\frac{S.P}{C.P} = 1.2$ — (i)

$\frac{S.P + 18}{0.9\,C.P} = 1.4$ — (ii)

$\frac{1.2\,C.P + 18}{0.9\,C.P} = 1.4$

$\Rightarrow 1.2\,C.P + 18 = 1.26\,C.P$

$\Rightarrow 0.06\,C.P = 18$

$C.P = \frac{18}{0.06} = 300$

Discounts:

M.P (Marked Price)

[MCQ]

#Q. By giving a discount of 25%, a shopkeeper gains 25%. If he gives a discount of 40%, find his gain or loss%.

Assignment

[MCQ]

#Q. A trader gains 20% by giving a discount of 20%, if he gives a discount of 25% then find his P% or L%.

Assignment

[MCQ]

#Q. An article was sold at a profit of 20%. If both cost price and selling price are ₹100 less each, then magnitude of the percentage of profit would have been 4 percentage points more than that in the first case. Then the cost price is

A ₹ 500

B ₹ 600

C ₹ 800

D None of these

Assignment

[MCQ]

#Q. 5kg of ghee was bought by Vinod for ₹300. One kg from spoilt. He sells the remaining in such a way that on the whole he incurs a loss of 10%. At what price per kg does he sell the ghee?

Assignment

A ₹ 46.25

B ₹ 45.70

C ₹ 67.50

D ₹ 46.60

2 mins Summary

Topic Profit & Loss

$\frac{SP}{CP}$

THANK - YOU