(15) In an examination, a candidate secured 125 marks & failed by 15 marks. If the pass percentage was 35%. Find the maximum marks.

→ Total marks secured = 125.
∴ failed by 15 marks =
= Pass marks = 125 + 15 = 140.

Let the maximum marks = x

$\therefore \frac{x \times 35}{100} = 140$ | $\frac{35}{100} \times x = 140 = x = 400$.

$= x = \frac{140 \times 100}{35} = 4 \times 100 = 400$ marks.

(16) In an objective type paper of 150 questions; John got 80% correct answers and Mohan got 64% correct answers.

→ (i) How many correct answers did each get?
(ii) what percent is Mohan's correct answers to John's correct answers.

Ans → (i) → John got 80% of 150 questions.

$= \frac{80}{100} \times 150 = 120$ marks.

and Mohan got 64% of 150 questions.

$= \frac{64}{100} \times 150 = 96$ marks.

(ii) Percent of Mohan's correct answers to John's correct answers.

$= \frac{96}{120} \times 100 = 80\%$

(17) The number 8000 is first increased by 20% & then decreased by 20%. Find the resulting number.

→ The resulting number = The original number = x

$= \left(1 + \frac{20}{100}\right) \times \left(1 - \frac{20}{100}\right)$

$= 8000 \times \frac{120}{100} \times \frac{80}{100}$

$= 7680.$

∴ Thus, the resulting number is 7680.

(18) The number 13,000 is first decreased by 25% & then increased by 25%. Find the resulting number.

= The resulting number = The original number

$= \left(1 + \frac{25}{100}\right) \times \left(1 - \frac{25}{100}\right)$

$= 13{,}000 \times \frac{125}{100} \times \frac{75}{100}$

$= 11{,}250$

∴ Thus, the resulting number is 11,250.

(19) The cost of an article is first increased by 20% and then decreased by 30%, find the percentage change in the cost of the article.

→ Let the original cost = ₹100.
Increased by 20%.

∴ New cost = 100 + 20 = ₹120.

Decreased by 30% = $\frac{120 \times 30}{100}$ = ₹36.

∴ New cost = 120 - 36 = ₹84.

Overall change = 100 - 84 = ₹16.

Required percentage = $\frac{16}{100} \times 100$ = 16% decrease.

∴ Thus, the percentage ~~increase~~ decrease in the cost of the article is 16%.

(20) The cost of an article is first increased by 25% and then decreased by 40%, find the percentage change in the cost of an article

⇒ Let the original cost = ₹100.
decreased by 25%.

∴ New cost = 100 - 25 = ₹75, decreased by 40%.
= $\frac{75 \times 40}{100}$ = ₹30.

∴ New cost = ₹75 - 30 = ₹45, overall change = 100 - 45 = ₹55.
Required percentage = $\frac{55}{100} \times 100$ = 55% decrease.