15) Marks secured = 125 marks
Failed by 15 marks
Let the maximum marks be x
Pass mark = 125 + 15 = 140

ATQ

35% of $x = 140$

$\Rightarrow \frac{35}{100} \times x = 140$

$\Rightarrow 35x = 140 \times 100$

$\Rightarrow x = \frac{140 \times 100}{35 \times 1} = 20$

$\Rightarrow x = 400$

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i) John's correct answer = 80% of 150

$= \frac{80}{100} \times 150$

$= 120$

Mohan's correct answer = 64% of 150

$= \frac{64}{100} \times 150$

$= 96$

ii) Mohan : John

96 : 120

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

$= 80\%$

17) Resulting Number = orig. no. $\times \left(1 + \frac{20}{100}\right) \times \left(1 - \frac{20}{100}\right)$

$= 8000 \times \left(\frac{100+20}{100}\right) \times \left(\frac{100-20}{100}\right)$

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

$= 8 \times 12 \times 80$

$= 96 \times 80$

$= 7680$

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18) Resulting No. = orig. no $\times \left(1-\frac{25}{100}\right)\left(1+\frac{25}{100}\right)$

$= 12000 \times \left(\frac{100-25}{100}\right)\left(\frac{100+25}{100}\right)$

$= 12000 \times \frac{75}{100} \times \frac{125}{100}$

$= 6 \times 75 \times 25$

$= 11,250$

19) Let the cost of article be ₹100

After an increase of 20%, it becomes $100 + 20\%$ of 100

$= 100 + \frac{20}{100} \times 100$

$= ₹120$

After an decrease it becomes $= 120 - 30\%$ of 120

$= 120 - \frac{30}{100} \times 120$

$= 120 - 36$

$= ₹84$

$= 120 - 30\%$ of 100

$= 120 - \frac{30}{100} \times 100$

$= 120 - 30$

$= 0$

Percent change $= \frac{84-100}{100} \times 100$

$= 16\%$

10) Let the cost of an article be ₹100

After an decrease, it becomes = 100 - 25% of 100

$= 100 - \frac{25}{100} \times 100$

$= 100 - 25$

$= ₹75$

After an decrease, it becomes = 75 - 40% of 75

$= 75 - \frac{40}{100} \times 75$

$= 75 - 30$

$= ₹45$

Percent change $= \frac{45 - 100}{100} \times 100$

$= 55\%$