



Q5. How does the budget line change if the consumer's income increases to Rs. 40 but the prices remain unchanged?

**Ans:**  $M_2 = \text{Rs. } 40$

$P_1 = \text{Rs. } 4$

$P_2 = \text{Rs. } 5$

Initial equation of the budget line:

$$4x_1 + 5x_2 = 20$$

New equation of the budget line:

$$4x_1 + 5x_2 = 40$$

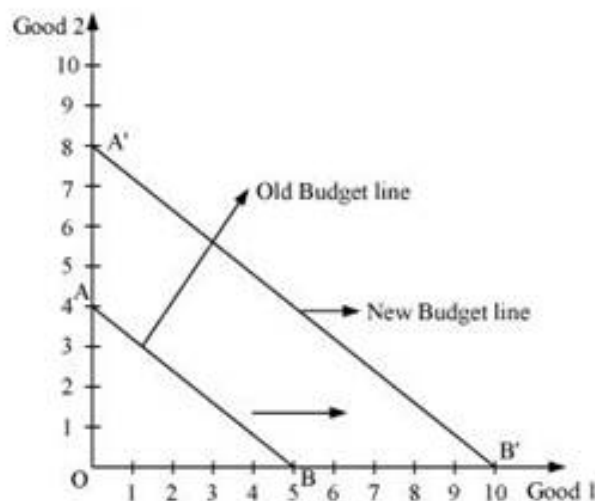
As  $M$  has increased, the consumer can now purchase more of both the goods and the budget line will shift parallelly outwards to  $A'B'$  from  $AB$ .

Horizontal intercept will be  $= \frac{M}{P_2} = \frac{40}{4} = 10$

Vertical intercept will be  $= \frac{M}{P_2} = \frac{40}{5} = 8$

The slope of the new budget line will be the same as that of the old budget line.

$$\frac{-P_1}{P_2} = \frac{4}{5}$$



Q6. How does the budget line change if the price of good 2 decreases by a rupee but the price of good 1 and the consumer's

income remain unchanged?

**Ans:**  $P_1 = \text{Rs. } 4$

$P_2 = \text{Rs. } 5$

$P_2^1 = \text{Rs. } 4$

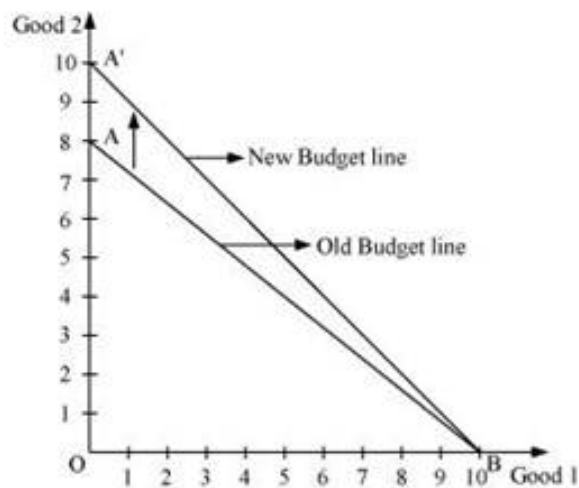
$M = \text{Rs. } 20$

Since the income and the price of good 1 are unchanged, the decrease in the price of good 2 will increase the vertical intercept of the budget line. The new budget line will also pivot outwards around the same horizontal intercept.

Horizontal intercept will be  $= \frac{M}{P_1} = \frac{40}{4}$

Vertical intercept will be  $= \frac{M}{P_2} = \frac{40}{4}$

Slope  $= \frac{-P_1}{P_2} = \frac{4}{4} = 1$



The slope of the new budget line will be more and the new budget line will be steeper than the original one.

\*\*\*\*\* END \*\*\*\*\*