

i) We know that consumption (C) and savings (S) are functions profit (Y):

$$Y = C(Y) + S(Y),$$

this equation shows that the portion of income goes to private consumption C, and excess takes the form of savings S. However, the cost to society can be represented on the one hand, the demand for consumer needs C, and on the other – the investment I:

$$Y = C'(Y) + I'(Y).$$

We can find the level of investment and savings from this equation:

$$I'(Y) = Y - C'(Y);$$

$$S'(Y) = Y - C'(Y).$$

We know that the saving function is $S = -10 + 0.2Y$, autonomous investment $I = \text{Rs.}50$ crores we can see that:

$$I'(Y) = S'(Y) \rightarrow 50 = -10 + 0.2Y.$$

Then we can find the level of profit Y

$$Y = \frac{50 + 10}{0,2} = 300,$$

After this we find the level of consumption $C'(Y)$

$$C'(Y) = Y - I'(Y) = 300 - 50 = 250$$

ii) If investment decreases permanently by Rs.5 crore, the new level of investment I'' is Rs.55 crores and we find the new level of consumption C'' by the same algorithm:

$$I''(Y) = S(Y) \rightarrow 55 = -10 + 0.2Y.$$

$$Y = \frac{55 + 10}{0,2} = 325,$$

$$C''(Y) = Y - I''(Y) = 325 - 55 = 270.$$

Answer: i) Consumption C' is Rs.250 crores, i) Consumption C'' is Rs.270 crores.