Q5. Suppose that for a particular economy, investment is equal to 200, government purchases are 150, net taxes (that is lump-sum taxes minus transfers) is 100 and consumption is given by C = 100 + 0.75Y (a) What is the level of equilibrium income? (b) Calculate the value of the government expenditure multiplier and the tax multiplier. (c) If government expenditure increases by 200, find the change in equilibrium income.

Ans: I = 200
G = 150
T = 100
C = 100 + 0.75 Y
So, C (Autonomous consumption) = 100
And, MPC (c) = 0.75
(a) Equilibrium level of income

$$=\frac{1}{1-0.75}(100-0.75\times100+200+150)$$

$$=\frac{1}{0.25}\times375$$

$$=\frac{375}{0.25}\times100$$

= Rs 1500
(b) Government expenditure multiplier

$$\frac{\Delta Y}{\Delta G}=\frac{1}{1-c}=\frac{1}{1-075}=\frac{1}{0.25}$$

$$=\frac{1}{25}\times100$$

= 4

$$\text{Tax multiplier} = \frac{\Delta Y}{\Delta T}=\frac{-c}{1-c}$$

$$=\frac{-0.75}{1-0.75}=\frac{-0.75}{0.25}$$

= – 3
(c) ΔG = 200
New equilibrium income

$$=\frac{1}{1-c}\left[\overline{C}-cT+I+G+\Delta G\right]$$

$$=\frac{1}{1-0.75}\left[100-0.75\times100+200+150+20\right]$$

$$=\frac{1}{0.25}\times575$$

$$=\frac{100\times575}{25}$$

=Rs 2300
Therefore, change in equilibrium income = 2300 – 1500 = Rs 800

********** END **********