

## HW - Chapter 4 - Cost of Capital - Q18

$$K_o = K_e = \text{Dividend} \div P_o$$

$$20\% = \text{Dividend} \div 1750$$

$$\text{Dividend} = 1750 \div 20\% = \text{Rs. } 350 \text{ lakhs}$$

$$\text{EBIT} = \text{Dividend} \div (1-T) = 350 / 70\% = \text{Rs. } 500 \text{ Lakhs}$$

$$\begin{aligned} \text{Market Value of levered firm} &= \text{Market Value of unlevered} + \text{Debt} \times \text{Tax} \\ &= 1750 + (275 \times 0.3) = 1832.5 \text{ lakhs} \end{aligned}$$

	Unlevered	Levered
EBIT	500	500
Less: Interest on debentures	NIL	(41.25)
Earnings available for equity holders i.e. Net Income (NI)	500	458.75
(-) Tax	(150)	(137.625)
Dividend	350	321.125
÷ Equity capitalization rate (Ke)**	20%	20.61
Market value of equity (E)*	1750	1557.5
(+) Market value of debt (D)	NIL	275
Total value of firm V = E + D	1750 lakhs	1832.5
Ko = EBIT (1-T) ÷ V	20%	19.09%

\* 1832.5 - 275

\*\* 321.125 / 1557.5