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SUGGESTED SOLUTION

INTERMEDIATE NOVEMBER 2019 EXAM

SUBJECT- FM

Test Code – CIM 8289

BRANCH - () (Date :)

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Answer 1:

Computation of Operating and Financial Leverage

Actual Production and Sales: 60% of 10,000 = 6,000 units **(0.5 mark)**

Contribution per unit: Rs. 30 – Rs. 20 = Rs. 10 **(0.5 mark)**

Total Contribution: 6,000 · Rs. 10 = Rs. 60,000 **(0.5 mark)**

Financial Plan Situation	XY		XM	
	A	B	A	B
	Rs.	Rs.	Rs.	Rs.
Contribution (C)	60,000	60,000	60,000	60,000
Less: Fixed Cost	20,000	25,000	20,000	25,000
Operating Profit or EBIT	40,000	35,000	40,000	35,000
Less: Interest	4,800	4,800	1,200	1,200
Earnings before tax (EBT)	35,200	30,200	38,800	33,800
Operating Leverage = $\frac{C}{EBIT}$	60,000	60,000	60,000	60,000
	40,000 =1.5	35,000 =1.71	40,000 =1.5	35,000 =1.71
Financial Leverage = $\frac{EBIT}{EBT}$	40,000	35,000	40,000	35,000
	35,200 = 1.14	30,200 = 1.16	38,800 = 1.03	33,800 = 1.04

(8.5 marks)

Answer 2:

Working Note:

1. Calculation of Net Profit

$$\frac{\text{Net Profit}}{\text{Capital}} = 25\%$$

Or, $\frac{\text{Net Profit}}{\text{Rs.8,00,000}} = \frac{25}{100}$ Or, Net Profit = Rs.2,00,000 **(1 mark)**

2. Calculation of Sales

$$\frac{\text{Net Profit}}{\text{Sales}} = \frac{16}{100}$$

Or, $\frac{\text{Rs.2,00,000}}{\text{Sales}} = \frac{16}{100}$ Or, Sales = Rs.12,50,000 **(1 mark)**

3. Calculation of Gross Profit

Gross profit = Rs. 12,50,000 x 20%

= Rs. 2,50,000 **(1 mark)**

4. Calculation of Opening Stock

Stock Turnover Ratio = $\frac{\text{Cost of Sales}}{\text{Average Stock}}$ = 5 times

Or, $\frac{\text{Rs.12,50,000 x } (1-0.2)}{\text{Average Stock}} = 5$

Or, Average Stock = $\frac{\text{Rs.10,00,000}}{5}$ =Rs. 2,00,000

Average Stock = $\frac{1{,}50{,}000 + \text{Opening Stock}}{2} = 2{,}00{,}000$

Or, Opening Stock = 4,00,000 -1,50,000 = Rs. 2,50,000 **(3 marks)**

Trading and Profit & Loss Account

Particulars	**Rs.**	**Particulars**	**Rs.**
To Opening Stock	2,50,000	By Sales	12,50,000
To Purchases	9,00,000	By Closing Stock	1,50,000
(Balancing figure)			
To Gross Profit (Balance c/d)	2,50,000		
	14,00,000		**14,00,000**
To Miscellaneous expenses	50,000	By Gross Profit (Balance b/d)	2,50,000
(Balancing figure)			
To Net Profit	2,00,000		
	2,50,000		**2,50,000**

(4 marks)

Answer 3:

Calculation of Degree of Operating leverage and Degree of Combined leverage

Firm	Degree of Operating Leverage (DOL) = $\frac{\%\text{Change in Operating Income}}{\%\text{ change in Revenue}}$	Degree of Combined Leverage (DCL) = $\frac{\%\text{ change in EPS}}{\%\text{ change in Revenue}}$
P	$\frac{25\%}{27\%} = 0.926$	$\frac{36\%}{27\%} = 1.111$
Q	$\frac{32\%}{25\%} = 1.280$	$\frac{24\%}{25\%} = 0.960$
R	$\frac{36\%}{23\%} = 1.565$	$\frac{21\%}{23\%} = 0.913$
S	$\frac{40\%}{21\%} = 1.905$	$\frac{23\%}{21\%} = 1.095$

(10 marks)

Answer 4:

Working Notes:

(i) Cost of Goods Sold = Sales – Gross Profit (28% of Sales)
= Rs. 50,00,000 – Rs. 14,00,000
= Rs. 36,00,000

(ii) Closing Stock = Cost of Goods Sold / Stock Turnover
= Rs. 36,00,000/6 = Rs. 6,00,000

(iii) Fixed Assets = Cost of Goods Sold / Fixed Assets Turnover
= Rs. 36,00,000/1.5 = Rs. 24,00,000

(iv) Current Assets : Current Ratio= 1.5 and Liquid Ratio = 1
Stock = 1.5 – 1 = 0.5
Current Assets = Amount of Stock × 1.5/0.5
= Rs. 6,00,000 × 1.5/ 0.5 = Rs. 18,00,000

(v) Liquid Assets (Debtors and Cash & Cash equivalents)
= Current Assets – Stock
= Rs.18,00,000 – Rs. 6,00,000
= Rs.12,00,000

(vi) Debtors = Sales × Debtors Collection Period(days) /360 days

= Rs.50,00,000 x $\frac{45}{360}$ =Rs.6,25,000

(vii) Cash & Cash equivalents = Liquid Assets – Debtors

= Rs.12,00,000 – Rs. 6,25,000 = Rs. 5,75,000

(viii) Net worth = Fixed Assets / 1.2

= Rs. 24,00,000/1.2 = Rs. 20,00,000

(ix) Reserves and Surplus

Reserves & Surplus and Share Capital = 0.6 + 1 = 1.6

Reserves and Surplus = Rs. 20,00,000 × 0.6/1.6 = Rs. 7,50,000

(x) Share Capital = Net worth – Reserves and Surplus

= Rs. 20,00,000 – Rs. 7,50,000

= Rs.12,50,000

(xi) Current Liabilities = Current Assets / Current Ratio

= Rs.18,00,000/1.5 = Rs.12,00,000

(xii) Long- term Debts

Capital Gearing Ratio = Long-term Debts / Equity Shareholders' Fund (Net worth)

Or, Long-term Debts = Rs. 20,00,000 × 0.5 = Rs.10,00,000

(8 marks)

Balance Sheet as at 31st March, 2016

Liabilities	**Amount (Rs.)**	**Assets**		**Amount (Rs.)**
Equity Share Capital	12,50,000	Fixed Assets		24,00,000
Reserves and Surplus	7,50,000	Current Assets:		
Long-term Debts	10,00,000	Stock	6,00,000	
Current Liabilities	12,00,000	Debtors	6,25,000	
		Cash & Cash eq.	5,75,000	18,00,000
	42,00,000			**42,00,000**

(2 marks)

Answer 5:

Working Notes:

(i) Capital Employed

	Rs.
Equity Capital (5,00,000 shares of Rs. 10 each)	50,00,000
Debentures (Rs. 80,000×100/8)	10,00,000

Term Loan (Rs. 2,20,000×100/11)	20,00,000
Reserves and Surplus	20,00,000
Total Capital Employed	1,00,00,000

(1 mark)

(ii) Rate of Return

Earnings before Interest and Tax = Rs. 23,00,000

Rate of Return on Capital Employed = $\frac{\text{Rs.23,00,000}}{\text{Rs.1,00,00,000}}$ x 100 = 23% **(1 mark)**

(iii) Expected Rate of Return after Modernization = 23% + 2% = 25%

Alternative 1: Raise Entire Amount as Term Loan

	Rs.
Original Capital Employed	1,00,00,000
Less: Debentures	10,00,000
	90,00,000
Add: Additional Term Loan	30,00,000
Revised Capital Employed	1,20,00,000

		Rs.
EBIT on Revised Capital Employed (@ 25% on Rs. 120 lakhs)		30,00,000
Less: Interest		
Existing Term Loan (@11%)	2,20,000	
New Term Loan (@12%)	3,60,000	5,80,000
		24,20,000
Less: Income Tax (@ 50%)		12,10,000
Earnings after Tax (EAT)		12,10,000

(2 marks)

Earnings per Share (EPS) = $\frac{\text{EAT}}{\text{No. of Equity Shares}} = \frac{\text{Rs.12,10,000}}{5,00,000\,\text{Shares}} = Rs.2.42$

P/E Ratio = $\frac{\text{Market Price Per Share}}{\text{EPS}} = 8$

$8 = \frac{\text{Market Price}}{Rs.2.42}$

Market Price = Rs. 19.36 **(1 mark)**

Alternative 2: Raising Part by Issue of Equity Shares and Rest by Term Loan

		Rs.
Earnings before interest and tax (@ 25% on Revised Capital Employed i.e. Rs.120 lakhs)		30,00,000
Less : Interest		
Existing Term Loan @ 11%	2,20,000	
New Term Loan @ 12%	1,20,000	3,40,000
		26,60,000

Less : Income Tax @ 50%		13,30,000
Earnings after Tax		13,30,000

(2 marks)

$$EPS = \frac{Rs.13,30,000}{5,00,000\ (existing) + 1,00,000(new)} = Rs.2.217$$ **(1 mark)**

P/E Ratio = 10

Market Price = Rs. 22.17 **(1 mark)**

Advise:

(i) From the above computations it is observed that the market price of Equity Shares is maximized under Alternative 2. Hence this alternative should be selected.

(ii) If, under the two alternatives, the P/E ratio remains constant at 10, the market price under Alternative 1 would be Rs. 24.20. Then Alternative 1 would be better than Alternative 2. **(1 mark)**