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CA INTERMEDIATE NOV'19

SUBJECT- F.M.

Test Code – CIM 8361

BRANCH - () (Date :)

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ANSWER-1

(a) (i) Computation of Earnings per Share (EPS)

Plans	P	Q	R
	Rs.	Rs.	Rs.
Earnings before interest & tax (EBIT)	18,00,000	18,00,000	18,00,000
Less: Interest charges	-	2,00,000	-
Earnings before tax (EBT)	18,00,000	16,00,000	18,00,000
Less : Tax @ 50%	9,00,000	8,00,000	9,00,000
Earnings after tax (EAT)	9,00,000	8,00,000	9,00,000
Less : Preference share dividend	-	-	2,00,000
Earnings available for equity shareholders	9,00,000	8,00,000	7,00,000
No. of shares	2,00,000	1,00,000	1,00,000
E.P.S (Rs.)	4.5	8	7

(ii) Computation of Financial Break-even Points

Proposal 'P' = 0

Proposal 'Q' = Rs. 2,00,000 (Interest charges)

Proposal 'R' = Earnings required for payment of preference share dividend i.e.

Rs. 2,00,000 , 0.5 (Tax Rate) = Rs. 4,00,000

(iii) Computation of Indifference Point between the Proposals

The indifference point

$$= \frac{\left(\text{EBIT-1}_1\right)(1\text{-T})}{\text{E}_1} = \frac{\left(\text{EBIT-1}_2\right)(1\text{-T})}{\text{E}_2}$$

Where,

EBIT = Earnings before interest and tax
1_1 = Fixed Charges (Interest) under Proposal 'P'
1_2 = Fixed charges (Interest) under Proposal 'Q'
T = Tax Rate
E_1 = Number of Equity shares in Proposal P
E_2 = Number of Equity shares in Proposal Q

(5 MARKS)

Combination of Proposals

(a) Indifference point where EBIT of proposal "P" and proposal 'Q' is equal

$$\frac{(ebit-0)(1-.5)}{2,00,000}=\frac{(EBIT-2,00,000)(1-0.5)}{1,00,000}$$

.5 EBIT (1,00,000) = (.5 EBIT -1,00,000) 2,00,000

.5 EBIT = EBIT – 2,00,000

EBIT = Rs. 4,00,000

(b) Indifference point where EBIT of proposal 'P' and Proposal 'R' is equal:

$$\frac{(\text{EBIT-1})(\text{1-T})}{\text{E}_1}=\frac{(\text{EBIT-12})(\text{1-T})}{\text{E}_2}$$ - Preference share dividend

$$\frac{(EBIT-0)(1-.5)}{2,00,000}=\frac{(EBIT-0)(1-.5)-2,00,000}{1,00,000}$$

$$\frac{.5EBIT}{2,00,000}=\frac{.53BIT-2,00,000}{1,00,000}$$

.25 EBIT = 0.5 EBIT - 2,00,000

EBIT = 2,00,000 ÷ 0.25

= Rs. 8,00,000

(c) Indifference point where EBIT of proposal 'Q' and proposal 'R' are equal

$$\frac{(EBIT-2,00,000)(1-0.5)}{1,00,000}=\frac{(EBIT-0)(1-0.5)-2,00,000}{1,00,000}$$

.5 EBIT -1,00,000 = .5 EBIT – 2,00,000

There is no indifference point between proposal 'Q' and proposal 'R'

Analysis: It can be seen that Financial proposal 'Q' dominates proposal 'R', since the financial break-even-point of the former is only Rs. 2,00,000 but in case of latter, it is Rs. 4,00,000.

(5 MARKS)

ANSWER-2

(i) Calculation of Leverages and Earnings per Share (EPS)

Income Statement

Particulars	**(Rs.)**
Sales Revenue	90,00,000
Less: Variable Cost @ 60%	54,00,000
Contribution	36,00,000
Less: Fixed Cost other than Interest	10,00,000
Earnings before Interest and Tax (EBIT)	26,00,000
Less: Interest (12% on Rs. 40,00,000)	4,80,000
Earnings before tax (EBT)	21,20,000
Less: Tax @ 30%	6,36,000
Earnings after tax (EAT)/ Profit after tax (PAT)	14,84,000

1. Calculation of Operating Leverage (OL)

$$\text{Operating Leverage} = \frac{\text{Contribution}}{\text{EBIT}} = \frac{\text{Rs.}36,00,000}{26,00,000} = 1.3846$$

2. Calculation of Financial Leverage (FL)

$$\text{Financial Leverage} = \frac{\text{EBIT}}{\text{EBT}} = \frac{\text{Rs.}26,00,000}{21,20,000} = 1.2264$$

3. Calculation of Combined Leverage (CL)

Combined Leverage = OL × FL = 1.3846 x 1.2264 = 1.6981

$$\text{Or, } \frac{\text{Contribution}}{\text{EBT}} = \frac{\text{Rs.}36,00,000}{21,20,000} = 1.6981$$

4. Calculation of Earnings per Share (EPS)

$$\text{EPS} = \frac{\text{EAT/PAT}}{\text{Number of Equity Shares}} = \frac{\text{Rs.}14,84,000}{4,00,000} = \backslash 3.71$$

(7 MARKS)

(ii) Calculation of likely levels of EBIT at Different EPS

$$\text{EPS} = \frac{(\text{EBIT-1})(1\text{-T})}{\text{Number of Equity Shares}}$$

(1) If EPS is Rs. 4

$$4 = \frac{(\text{EBIT-4,80,000})(1\text{-}0.3)}{4,00,000} \text{ Or, EBIT - Rs.4,80,000} = \frac{\text{Rs.}16,00,000}{0.70}$$

EBIT – Rs. 4,80,000 = Rs. 22,85,714 Or, EBIT = Rs. 27, 65,714

(2) If EPS is Rs. 2

$$2 = \frac{(\text{EBIT-4,80,000})(1-0.3)}{4,00,000} \text{ Or, EBIT - Rs.4,80,000} = \frac{\text{Rs.8,00,000}}{0.70}$$

EBIT – Rs. 4,80,000 = Rs. 11,42,857 Or, EBIT = Rs. 16, 22,857

(3) If EPS is Rs. Zero

$$0 = \frac{(\text{EBIT-Rs.4,80,000})(1-0.3)}{\text{Rs.4,00,000}} \text{ Or, EBIT = Rs.4,80,000}$$

(3*1 = 3 MARKS)

ANSWER-3

Working Notes:

1. Capital employed before expansion plan:

	(Rs.)
Equity shares (Rs.10 × 80,000 shares)	8,00,000
Debentures {(Rs. 1,20,000/12) X 100}	10,00,000
Retained earnings	12,00,000
Total capital employed	30,00,000

2. Earnings before the payment of interest and tax (EBIT):

	(Rs.)
Profit (EBT)	3,00,000
Interest	1,20,000
EBIT	4,20,000

3. Return on Capital Employed (ROCE):

$$\text{ROCE} = \frac{\text{EBIT}}{\text{Capital employed}} \text{ x } 100 = \frac{\text{Rs.4,20,000}}{\text{Rs.30,00,000}} \text{ x } 100 = 14\%$$

4. Earnings before interest and tax (EBIT) after expansion scheme:

After expansion, capital employed = Rs. 30,00,000 + Rs.4,00,000 = Rs. 34,00,000

Desired EBIT = 14% x Rs.34,00,000 = Rs.4,76,000

(5 MARKS)

(i) Computation of Earnings Per Share (EPS) under the following options:

	Present situation (Rs.)	Expansion scheme Additional funds raised as	
		Debt Rs.	Equity Rs.
Earnings before interest and Tax (EBIT)	4,20,000	4,76,000	4,76,000
Less : Interest			
- Old Capital	1,20,000	1,20,000	1,20,000
- New Capital	-	48,000 (Rs.4,00,000 x 12%)	-
Earnings before Tax (EBT)	3,00,000	3,08,000	3,56,000
Less : Tax (50% of EBT)	1,50,000	1,54,000	1,78,000
PAT	1,50,000	1,54,000	1,78,000
No. of shares outstanding	80,000	80,000	1,20,000
Earnings per Share (EPS)	1.875 $\left(\frac{Rs.1,50,000}{80,000}\right)$	1.925 $\left(\frac{Rs.1,54,000}{80,000}\right)$	1.48 $\left(\frac{Rs.1,78,000}{1,20,000}\right)$

(ii) Advise to the Company: When the expansion scheme is financed by additional debt, the EPS is higher. Hence, the company should finance the expansion scheme by raising debt.

(5 MARKS)

ANSWER-4

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

(ii) Rate of Return

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

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

(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

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

(5 MARKS)

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

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

P/E Ratio = 10

Market Price = Rs. 22.17

Advise:

(i) From the above computations it is observed that the market price of Equity Shares is maximised 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.

(5 MARKS)