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CA INTERMEDIATE

SUBJECT- F.M.

Test Code – CIM 8441

BRANCH - () (Date :)

Head Office : Shraddha, 3rd Floor, Near Chinai College, Andheri (E), Mumbai – 69.

Tel : (022) 26836666

ANSWER 1(A)

Calculation of Earnings per share under the three options:

Particulars	Options		
	Option I: Issue Equity shares only	Option II: Issue 16% Debentures only	Option III: Issue Equity Shares and 16% Debentures of equal amount
Number of Equity Shares (no's):			
- Existing	10,00,000	10,00,000	10,00,000
- Newly issued	2,00,000	---	50,000
	$\left(\frac{\text{Rs.}50,00,000}{\text{Rs.}(10+15)} \right)$		$\left(\frac{\text{Rs.}25,00,000}{\text{Rs.}(10+40)} \right)$
Total	12,00,000	10,00,000	10,50,000
16% Debentures Rs.	---	50,00,000	25,00,000
	Rs.	Rs.	Rs.
Profit Before Interest and Tax:			
- Existing pre-tax profit	60,00,000	60,00,000	60,00,000
- From new projects	40,00,000	40,00,000	40,00,000
	1,00,00,000	1,00,00,000	1,00,00,000
Less: Interest on 16% Debentures	---	8,00,000	4,00,000
		(16% Rs.50,00,000)	(16% x Rs.25,00,000)
Profit Before Tax	1,00,00,000	92,00,000	96,00,000
Tax at 50%	50,00,000	46,00,000	48,00,000
Profit After Tax	50,00,000	46,00,000	48,00,000
Earnings Per Share (EPS)	4.17	4.60	4.57
$\left(\frac{\text{PAT}}{\text{No. of Shares}} \right)$	$\left(\frac{\text{Rs.}50,00,000}{12,00,000} \right)$	$\left(\frac{\text{Rs.}46,00,000}{10,00,000} \right)$	$\left(\frac{\text{Rs.}48,00,000}{10,50,000} \right)$

Advise: Option II i.e. issue of 16% Debentures is most suitable to maximize the earnings per share.**(8 MARKS)****ANSWER 1 (B)****Working Note:****1. Calculation of Net Profit**

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

$$\text{Or, } \frac{\text{Net Profit}}{\text{Rs.}8,00,000} = \frac{25}{100} \quad \text{Or, Net Profit} = \text{Rs.}2,00,000$$

(1 MARK)

2. Calculation of Sales

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

$$\text{Or, } \frac{\text{Rs.2,00,000}}{\text{Sales}} = \frac{16}{100} \text{ Or, Sales} = \text{Rs.12,50,000}$$

(1 MARK)

3. Calculation of Gross Profit

$$\begin{aligned} \text{Gross profit} &= \text{Rs. 12,50,000} \times 20\% \\ &= \text{Rs. 2,50,000} \end{aligned}$$

(0.5 MARK)

4. Calculation of Opening Stock

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

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

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

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

$$\text{Or, Opening Stock} = 4,00,000 - 1,50,000 = \text{Rs. 2,50,000}$$

(1.5 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

(3 MARKS)

ANSWER 1 (C)**Operating Leverage (OL)**

$$\frac{\text{Contribution}}{\text{EBIT}} = \frac{\text{EBIT} + \text{Fixed Cost}}{\text{EBIT}} = \frac{\text{Rs.15,750} + \text{Rs.1,575}}{15,750} = 1.1$$

(1 MARK)**Financial Leverage (FL)**

$$= \frac{\text{EBIT}}{\text{EBT}} = \frac{15,750}{7,000} = 2.25$$

(1 MARK)**Combined Leverage (CL)**

$$= 1.1 \times 2.25 = 2.475$$

(1 MARK)**Percentage Change in Earnings per share**

$$\text{DCL} = \frac{\% \text{ change in EPS}}{\% \text{ change in Sales}}$$

$$2.475 = \frac{\% \text{ Change in EPS}}{5\%}$$

∴ % change in EPS = 12.375%.

Hence if sales is increased by 5%, EPS will be increased by 12.375%.

(2 MARKS)**ANSWER 2****(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

(3 MARKS)

(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

(1 MARK)

(iii) Computation of Indifference Point between the Proposals

$$\text{The indifference point} = \frac{(EBIT - I_1)(1 - T)}{E_1} = \frac{(EBIT - I_2)(1 - T)}{E_2}$$

Where,

EBIT = Earnings before interest and tax

I_1 = Fixed Charges (Interest) under Proposal 'P'

I_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

(0.5 MARK)

Combination of Proposals

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

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

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

$$.5 EBIT = EBIT - 2,00,000$$

$$EBIT = Rs. 4,00,000$$

(1.5 MARKS)

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

$$\frac{(EBIT - 1)(1 - T)}{E_1} = \frac{(EBIT - 12)(1 - T)}{E_2} - \text{Preference share dividend}$$

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

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

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

$$EBIT = 2,00,000 \div 0.25 = Rs. 8,00,000$$

(2 MARKS)

(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'

(1.5 MARKS)

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.

(0.5 MARK)

ANSWER 3

PROFORMA BALANCE SHEET AS AT 31ST DECEMBER, 2010

(Figure in Rs. Lacs)

Liabilities	Amount	Assets	Amount
Share Capital	5.00	Fixed Assets	6.00
Reserve and Surplus	2.50	Stock	2.00
Term Loan (Balance Figure)	1.50	Debtors	2.50
Current Liabilities	2.00	Bank	0.50
	11.00		11.00

(2 MARKS)

Working Notes:

(a) Current Assets - Current Liabilities = Working Capital

i.e. 2.5 - 1.0 Rs.3,00,000

i.e. 1.5 Rs.3,00,000

i.e. 1 Rs.2,00,000

i.e. 2. Rs.5,00,000

i.e. Current Assets Rs.5,00,000

i.e. Current Liabilities Rs.2,00,000

(1 MARK)

(b) Debtors and Bank

$$\text{Liquid Ratio} = \frac{\text{Debtors \& Bank}}{\text{Current Liabilities}} = 1.5$$

Therefore, Debtors and Bank = Rs.3,00,000

(1 MARK)

(c) Stock = Current Assets - Debtor and Bank

i.e., Rs. 5,00,000 - Rs. 3,00,000 = Rs. 2,00,000

(1 MARK)

(d) Stock Turnover ratio is 6 le., Cost of Sales = 6 X stock

Therefore, Cost of sales = 6 X Rs. 2,00,000 = Rs. 12,00,000

(1 MARK)

- (e) Gross Profit Ratio is 20%, therefore, Cost of Goods Sold (Rs. 12,00,000) is 80% of Sales. The Sales of the firm is therefore, Rs. 15,00,000 with a Net Profit is 3,00,000. **(1 MARK)**
- (f) The debt collection period is 2 months. So, the debtors are 1/6 of sales and are therefore, Rs. 2,50,000. **(1 MARK)**
- (g) The Bank balance is Rs. 3,00,000-Rs. 2,50,000 (i.e.. debtors) = Rs. 50,000. **(1 MARK)**
- (h) The Fixed Assets turnover is 2 and the Cost of Sales is Rs. 12,00,000. Therefore, the Fixed Assets are Rs. 6,00,000. **(1 MARK)**

ANSWER 4

Income Statements of Company A and Company B

	Company A (Rs.)	Company B (Rs.)
Sales	91,000	1,05,000
Less: Variable cost	56,000	63,000
Contribution	35,000	42,000
Less: Fixed Cost	20,000	31,500
Earnings before interest and tax (EBIT)	15,000	10,500
Less: Interest	12,000	9,000
Earnings before tax (EBT)	3,000	1,500
Less: Tax @ 30%	900	450
Earnings after tax (EAT)	2,100	1,050

(4 MARKS)

Working Notes:

Company A

$$(i) \quad \text{Financial Leverage} = \frac{\text{EBIT}}{\text{EBT i.e. EBIT} - \text{Interest}}$$

$$\text{So, } 5 = \frac{\text{EBIT}}{\text{EBIT} - 12,000}$$

$$\text{Or, } 5(\text{EBIT} - 12,000) = \text{EBIT}$$

$$\text{Or, } 4 \text{ EBIT} = 60,000$$

$$\text{Or, EBIT} = \text{Rs. } 15,000$$

$$(ii) \quad \text{Contribution} = \text{EBIT} + \text{Fixed Cost} \\ = \text{Rs. } 15,000 + \text{Rs. } 20,000 = \text{Rs. } 35,000$$

$$(iii) \quad \text{Sales} = \text{Contribution} + \text{Variable cost} \\ = \text{Rs. } 35,000 + \text{Rs. } 56,000 \\ = \text{Rs. } 91,000$$

(3 MARKS)

Company B

(i) Contribution = 40% of Sales (as Variable Cost is 60% of Sales)
= 40% of 1,05,000 =Rs. 42,000

(ii) Operating Leverage = $\frac{\text{Contribution}}{\text{EBIT}}$ Or, 4 = $\frac{\text{Rs.42,000}}{\text{EBIT}}$

EBIT = $\frac{\text{Rs.42,000}}{4}$ =Rs.10,500

(iii) Fixed Cost = Contribution – EBIT = 42,000 – 10,500 =Rs. 31,500

(3 MARKS)