SUGGESTED SOLUTION

CA INTERMEDIATE

SUBJECT- F.M.

Test Code – CIM 8701

BRANCH - () (Date :)

NOTES: (1) WORKING NOTES SHOULD FORM PART OF ANSWERS.
     (2) INTERNAL WORKING NOTES SHOULD ALSO BE CONSIDERED.
     (3) NEW QUESTION SHOULD BE ON NEW PAGE

ANSWER -1

ANSWER -A

Income Statement is prepared as under –

Particulars	Given Situation	For Rs. 4 EPS	For Rs. 2 EPS	For Nil EPS
Sales (given)	90,00,000			
Less: Variable Cost at 60%	(54,00,000)			
Contribution	36,00,000			
Less: Fixed Cost(given)	(10,00,000)			
EBIT	26,00,000	27,65,714	16,22,857	4,80,000
Less: Interest (Rs. 40,00,000 at 12%)	(4,80,000)	(4,80,000)	(4,80,000)	(4,80,000)
EBT	21,20,000	22,85,714	11,42,857	Nil
Less: Tax at 30%	(6,36,000)	(685,714)	(3,42,857)	Nil
EAT = Residual Earnings (no Pref. Dividend)	14,84,000	16,00,000	8,00,000	Nil
Number of Equity Shares	4,00,000	4,00,000	4,00,000	4,00,000
EPS = $\dfrac{\text{EAT}}{\text{No. of Equity Shares}}$	Rs. 3.71	GivenRs. 4	GivenRs. 2	Given Nil

Note:

For Required EPS of Rs. 4, Rs. 2 and Nil, the calculations are made by reverse working starting backwards from EPS. Since Tax is 30%, EAT = 70% of EBT. Hence, $EBT = \dfrac{EAT}{70\%}$. The other calculations are made accordingly.

$$DOL = \frac{\text{Contribution}}{\text{EBIT}} = \frac{Rs.36,00,000}{Rs.26,00,000} = 1.38 \text{ times.}$$

$$DFL = \frac{\text{EBIT}}{\text{EBT}} = \frac{Rs.26,00,000}{Rs.21,20,000} = 1.23 \text{ times.}$$

$$DCL = \frac{\text{Contribution}}{EBT} = \frac{Rs.36,00,000}{Rs.21,20,000} = 1.70 \text{ times (or) DCL = DOL x DFL = 1.38 x 1.23 = 1.70 times.}$$

(5 MARKS)

ANSWER –B

Operating Leverage (OL)

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

Financial Leverage (FL)

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

Combined Leverage (CL)

= 1.1 x 2.25 = 2.475

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%.

(5 MARKS)

ANSWER -2

Computation of EPS under three-financial plans

Plan I: Equity Financing

	Rs.	Rs.	Rs.	Rs.	Rs.
EBIT	62,500	1,25,000	2,50,000	3,75,000	6,25,000
Interest	0	0	0	0	0
EBT	62,500	1,25,000	2,50,000	3,75,000	6,25,000
Less: Taxes 40%	25,000	50,000	1,00,000	1,50,000	2,50,000
PAT	37,500	75,000	1,50,000	2,25,000	3,75,000
No. of equity shares	3,12,500	3,12,500	3,12,500	3,12,500	3,12,500
EPS	0.12	0.24	0.48	0.72	1.20

Plan II: Debt – Equity Mix

	Rs.	Rs.	Rs.	Rs.	Rs.
EBIT	62,500	1,25,000	2,50,000	3,75,000	6,25,000
Less: Interest	1,25,000	1,25,000	1,25,000	1,25,000	1,25,000
EBT	(62,500)	0	1,25,000	2,50,000	5,00,000
Less: Taxes 40%	25,000*	0	50,000	1,00,000	2,00,000
PAT	(37,500)	0	75,000	1,50,000	3,00,000
No. of equity shares	1,56,250	1,56,250	1,56,250	1,56,250	1,56,250
EPS	(0.24)	0	0.48	0.96	1.92

* The Company will be able to set off losses against other profits. If the Company has no profits from operations, losses will be carried forward.

Plan III : Preference Shares – Equity Mix

	Rs.	Rs	Rs.	Rs.	Rs.
EBIT	62,500	1,25,000	2,50,000	3,75,000	6,25,000
Less: Interest	0	0	0	0	0

EBT	62,500	1,25,000	2,50,000	3,75,000	6,25,000
Less: Taxes (40%)	25,000	50,000	1,00,000	1,50,000	2,50,000
PAT	37,500	75,000	1,50,000	2,25,000	3,75,000
Less: Pref. dividend	1,25,000	1,25,000	1,25,000	1,25,000	1,25,000
PAT for ordinary shareholders	(87,500)	(50,000)	25,000	1,00,000	2,50,000
No. of Equity shares	1,56,250	1,56,250	1,56,250	1,56,250	1,56,250
EPS	(0.56)	(0.32)	0.16	0.64	1.60

(7 MARKS)

(ii) The choice of the financing plan will depend on the state of economic conditions. If the company's sales are increasing; the EPS will be maximum under Plan II: Debt – Equity Mix. Under favorable economic conditions, debt financing gives more benefit due to tax shield availability than equity or preference financing.

(1 MARK)

(iii) EBIT – EPS Indifference Point : Plan I and Plan II

$$\frac{(EBIT^*) \times (1\text{-}T_c)}{N_1} = \frac{(EBIT^*\text{-}Interest) \times (1\text{-}T_c)}{N_2}$$

$$\frac{EBIT^*(1\text{-}0.40)}{3,12,500} = \frac{(EBIT^*\text{-}1,25,000) \times (1\text{-}0.40)}{1,56,250}$$

$$EBIT^* = \frac{3,12,500}{3,12,500\text{-}1,56,250} \times 1,25,000$$

EBIT – EPS Indifference Point: Plan I and Plan III

$$\frac{EBIT^*(1\text{-}T_c)}{N_1} = \frac{EBIT^*(1\text{-}T_c)\text{-}Pref.Div.}{N_2}$$

$$EBIT^* = \frac{N_1}{N_1\text{-}N_2} \times \frac{Pref.Div.}{1\text{-}T_c}$$

$$= \frac{3,12,500}{3,12,500\text{-}1,56,250} \times \frac{1,25,000}{1\text{-}0.4}$$

$$= Rs. \ 4,16,666.67$$

(2 MARKS)

ANSWER -3

ANSWER –A

Workings:

(i) Financial Leverage $= \dfrac{EBIT}{EBIT\text{-}Interest}$ Or, $2 = \dfrac{EBIT}{EBIT\text{-}Rs.2,000}$

Or, EBIT = Rs.4,000

(ii) Operating Leverage $= \dfrac{Contribution}{EBIT}$ Or, $3 = \dfrac{Contribution}{Rs.4,000}$

Or, Contribution = Rs.12,000

(iii) Sales $= \dfrac{\text{Contribution}}{\text{P/V Ratio}} = \dfrac{\text{Rs.12,000}}{25\%} = \text{Rs.48,000}$

(iv) Fixed Cost = Contribution – Fixed cost = EBIT

=Rs.12,000 – Fixed cost =Rs.4,000 Or, Fixed cost =Rs. 8,000

Income Statement for the year ended 31stDecember 2014

Particulars	Amount (Rs.)
Sales	48,000
Less: Variable Cost (75% of Rs. 48,000)	(36,000)
Contribution	12,000
Less: Fixed Cost (Contribution - EBIT)	(8,000)
Earnings Before Interest and Tax (EBIT)	4,000
Less: Interest	(2,000)
Earnings Before Tax (EBT)	2,000
Less: Income Tax @ 30%	(600)
Earnings After Tax (EAT or PAT)	1,400

(5 MARKS)

ANSWER –B

Sales in units	60,000 (Rs.)	50,000 (Rs.)
Sales Value	7,30,000	6,00,000
Variable Cost	(4,80,000)	(4,00,000)
Contribution	2,40,000	2,00,000
Fixed expenses	(1,00,000)	(1,00,000)
EBIT	1,40,000	1,00,000
Debenture Interest	(50,000)	(50,000)
EBT	90,000	50,000
Tax @ 30%	(27,000)	(15,000)
Profit after tax (PAT)	63,000	35,000

(i) Earnings per share (EPS) $= \dfrac{63,000}{5,000} = \text{Rs.12.6}$ $\qquad \dfrac{35,000}{5,000} = \text{Rs.7}$

Decrease in EPS = 12.6 – 7 = 5.6

% decrease in EPS $= \dfrac{5.6}{12.6} \times 100 = 44.44\%$

(ii) Operating leverage $= \dfrac{\text{Contribution}}{\text{EBIT}} = \dfrac{\text{Rs.2,40,000}}{\text{Rs.1,40,000}} \qquad \dfrac{\text{Rs.2,00,000}}{\text{Rs.1,00,000}}$

$\qquad\qquad =1.71 \qquad\qquad 2$

(iii) Financial Leverage $= \dfrac{\text{EBIT}}{\textit{EBT}} = \dfrac{\text{Rs.1,40,000}}{\text{Rs.90,000}} \qquad \dfrac{\text{Rs.1,00,000}}{\text{Rs.50,000}}$

$\qquad\qquad =1.56 \qquad\qquad 2$

(5 MARKS)

ANSWER -4

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):**

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

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

(4*1 = 4 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)	$1.875 \left(\dfrac{\text{Rs.1,50,000}}{80,000} \right)$	$1.925 \left(\dfrac{\text{Rs.1,54,000}}{80,000} \right)$	$1.48 \left(\dfrac{\text{Rs.1,78,000}}{1,20,000} \right)$

(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.

(6 MARKS)