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SUGGESTED SOLUTION

INTERMEDIATE MAY 2019 EXAM

SUBJECT - FM

Test Code - CIM 8059

BRANCH - () (Date : 09/09/2018)

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Answer 1:

Sohna Food and Beverages Ltd.

Projected Profitability Statement at 80% capacity

Units to be produced (36,000/60 x 80) = 48,000 packets

A.	**Cost of Sales:**			**(Rs.)**
	Raw material	Rs. 4 x 48,000	=	1,92,000
	Wages	Rs. 2 x 48,000	=	96,000
	Overheads(Variable)	Rs. 2 x 48,000	=	96,000
	Overheads (Fixed)	Rs. 1 x 36,000	=	36,000
				4,20,000
B.	**Profit**	Rs. 3.25x 48,000	=	1,56,000
C.	**Sale value**	Rs. 12x48,000	=	5,76,000

Alternatively

If we assume the movement in stock levels, because of increase in capacity, i.e., from 60% to 80%, the profitability statement will be as follows:

Units to be produced (36,000/60 x 80) 48,000 packets

A. Cost of goods sold:

		Rs.
Raw Material	(4 x 48,000)	1,92,000
Wages	(2 x 48,000)	96,000
Overheads (Variable)	(2 x 48,000)	96,000
Overheads (Fixed)	(1 x 36,000)	.36,000
		4,20,000
Less : Increase in stock of Materials + WIP + Finished goods (Refer to working note)		18,000
Adjusted cost of sales		4,02,000
B. Profit		1,62,000
C. Sales	(12 x 47,000)*	5,64,000

* Opening Stock + production - closing stock = 3,000 + 48,000-4,000= 47,000

Working Note:

Capacity		60%		80%
Number of units of production		36,000		48,000
	Cost/Unit	**Rs.**		**Rs.**
Raw material stock (I month)	4	12,000		16,000
WIP Stock:				
Material (1 month) .	4	12,000		16,000
Wages (1/2 month)	2	3,000		4,000

Variable overheads (1/2 month)	2	3,000		4,000
Fixed overheads (1/2 month)	1	1,500	(0.75)	1,500
Finished goods (1 month)	9	27,000	(8.75)	35,000
		58,500		76,500
Increase in Stock				18,000

Working Notes:

Cost of Sales-average per month

	Per annum	**Per month**
Raw material	1,92,000	16,000
Wages .	96,000	8,000
Overheads (Variable)	96,000	8,000
Overheads (Fixed)	36,000	3,000
	4,20,000	35,000
Profit	1,56,000	13,000
Sale value	5,76,000	48,000

Projected Statement of Working Capital at 80% capacity

Current Assets			
Raw material (48000/12 x 4)		16,000	
Work in process		25,500	
Materials (48,000 x 4 x 1/12)	16,000		
Wages (48,000 x 2 x 1/24)	4,000		
Variable overheads (48,000 x 2 x 1/24)	4,000		
Fixed overheads (48,000 x 0.75 x 1/24)	1,500		
Finished goods (48,000 x 8.75 x 1/12)		35,000	
		76,500	
Sundry debtors		96,000	
		1,72,500	
Cash balance		19,500	(A) 1,92,000
Less: Current Liabilities:			
Creditors for goods (48,000 x 4 x 3/12)		48,000	
Creditors for expenses (48,000 x 4.75 x 1/12)		19,000	(B) 67,000
Net working capital (A)-(B)			1,25,000

Note:

(i) Since wages and overheads payments accrue evenly, it is assumed that they will be in process for half a month in average,

(ii) Fixed overheads per unit = Rs. 36000/48000=Rs. 0.75.

Answer 2:

(i) Financial leverage

Combined Leverage = Operating Leverage (OL) x Financial Leverage (FL)

2.5 = 2 x FL Or, FL = 1.25

Financial Leverage = 1.25

(ii) P/V Ratio and Earning per share (EPS)

$$\text{Operating leverage} = \frac{\text{Contribution (C)}}{\text{Contribution - Fixed Cost (FC)}} \text{ x } 100$$

$$2 = \frac{C}{C - 3,40,000} \text{ Or, } C = 2 (C - 3,40,000)$$

Or, C = 2C - 6,80,000 Or, Contribution = Rs.6,80,000

$$\text{Now, P/V ratio} = \frac{\text{Contribution (C)}}{\text{Sales(S)}} \text{ x } 100 = \frac{6,80,000}{50,00,000} \text{ x } 100 = 13.6\%$$

Therefore, R/V Ratio = 13.6%

EBT = Sales - Variable Cost - Fixed Cost - Interest

= Rs.50,00,000 – Rs.50,00,000 (1-0.136) – Rs.3,40,000 – (8% x Rs.30,25000)

= Rs.50,00,000 –Rs.43,20,000 – Rs.3,40,000 – Rs.2,42,000

= Rs.98,000

PAT = EBT (1-T)

= Rs.98,000 (1-0.3) = Rs.68,600

$$\text{EPS} = \frac{\text{Profit after tax}}{\text{No. of equity shares}}$$

$$\text{EPS} = \frac{Rs.68,600}{3,40,000 \text{ shares}} = Rs.0.202$$

(iii) **Assets turnover**

$$\text{Assets turnover} = \frac{\text{Sales}}{\text{Total Assets*}} = \frac{\text{Rs.50,00,000}}{\text{Rs.34,00,000 + Rs.30,25,000}} = 0.78$$

0.78 < 1.5 means lower than industry turnover.

*Total Asset = Equity share capital + 8% Debentures

(iv) EBT zero means 100% reduction in EBT. Since combined leverage is 2.5, sales have to be dropped by 100/2.5 = 40%. Hence new sales will be

Rs. 50,00,000 x (100-40) % = Rs. 30,00,000.

Therefore, at Rs. 30,00,000 level of sales, the Earnings before Tax (EBT) of the company will be zero.

Alternatively

Required sales when EBT is zero

$$= \frac{\text{Fixed Cost + Interest + desired Profit}}{\text{P/V Ratio}}$$

$$= \frac{Rs.3,40,000 + Rs.2,42,000 + Zero}{13.60\%}$$

$$= \frac{Rs.5,82,000}{13.60\%}$$

= Rs.42,79,412

[Note: The question can also be solved by first calculating EBIT with the help of Financial Leverage. Accordingly answer to the requirement (ii) and (iv) will also vary]

Answer 3:

(A)

Computation of Earnings after tax (EAT) or Profit after tax (PAT)

Total contribution = 5,000 units x Rs. 60/unit = Rs. 3,00,000

Operating leverage (OL) x Financial leverage (FL) = Combined leverage (CL)

$\therefore$ 6 × FL = 24 $\quad\therefore$ FL = 4

$\therefore$ OL = $\frac{\text{Contribution}}{\text{EBIT}}$ $\therefore$ 6 = $\frac{\text{Rs.3,00,000}}{\text{EBIT}}$ $\quad\therefore$ EBIT = Rs. 50, 000

FL = $\frac{\text{EBIT}}{\text{EBT}}$ $\quad\therefore$ 4 = $\frac{\text{Rs.50,000}}{\text{EBT}}$ $\quad\therefore$ EBT = Rs. 12,500

Since tax rate is 30%, therefore, Earnings after tax = 12,500 x 0.70 = Rs. 8,750

Earnings after tax (EAT) = Rs. 8,750

(B)

(Rs. in lacs)

	Existing	**Proposed**
Earnings before Interest and Tax	15.00	18.00
Less : Interest		
Term Loan (15%)	7.50	7.50
Bank Borrowing (20%)	6.60	11.60
Public Deposit (14%)	2.10	2.10
Total Interest	16.20	21.20
Loss after Interest	(1.20)	(3.20)
	Rs.15 lacs	Rs.18 lacs
Interest Coverage Ratio	Rs.16.20 lacs = 0.925	Rs.21.20 lacs = 0.849

So, it appears that the Interest Coverage ratio will fall and hence revised proposal is not desirable.

Answer 4:

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**

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

(b) Debtors and Bank

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

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

(c) Stock = Current Assets - Debtor and Bank

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

(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

(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.

(f) The debt collection period is 2 months. So, the debtors are 1 /6 of sales and are therefore, Rs. 2,50,000.

(g) The Bank balance is Rs. 3,00,000-Rs. 2,50,000 (i.e.. debtors) = Rs. 50,000.

(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.

Answer 5:

Since the amount of revenue generated from each category of customer is not given in the question. Let us consider Rs. 100 as the amount of revenue generated from each type of customer. Therefore, Rs. 100 shall be taken as the basis for reappraisal of Company's credit policy.

Statement showing the Evaluation of credit Policy

Particulars	Classification of Customers			
	1	2	3	4
A. Expected Profit:				
(a) Revenue	100	100	100	100
(b) Total Cost other than Bad Debt:				
(i) Cost of Goods Sold	85	85	85	85
(ii) Fixed Cost	5	5	5	5
	90	90	90	90
(c) Bad Debt	0	2.00	10.00	20.00
(d) Expected Profit [(a)-(b)-(c)]	10	8.00	0	(10.00)
B. Opportunity Cost of Investment in Receivables	1.66	1.55	1.48	2.96
C. Net Benefits [A-B]	8.34	6.45	(1.48)	(12.96)

Recommendation: The reappraisal of company's credit policy indicates that the company either follows a lenient credit policy or it is inefficient in collection of debts. Even though the company sells its products on terms of net 30 days, it allows average collection period for more than 30 to all categories of its customers.

The company can continue with customers covered in categories 1 and 2 since net benefits are favourable. The company either should not continue with customer covered in categories 3 and 4 or should reduce the bad debt % by at least 1.48% and 12.96% respectively since net benefits are unfavourable to the extent of 1.48% and 12.96% of sales respectively. The other factors to be taken into consideration before changing the present policy includes (i) past performance of the customers and (ii) their credit worthiness.

Working Note: Calculation of Opportunity Cost

$$\text{Opportunity Cost} = \text{Total Cost} \times \frac{\text{Average collection period}}{365} \times \text{Rate of interest}$$

For Category 1 = Rs.90 x $\frac{45}{365}$ x $\frac{15}{100}$ =Rs.1.66

For Category 2 = Rs.90 x $\frac{42}{365}$ x $\frac{15}{100}$ =Rs.1.55

For Category 3 = Rs.90 x $\frac{40}{365}$ x $\frac{15}{100}$ =Rs.1.48

For Category 4 = Rs.90 x $\frac{80}{365}$ x $\frac{15}{100}$ =Rs.2.96

Answer 6:

(i) Determination of EPS at EBIT of Rs. 5,50,000

Particulars	**Alt-1 : Equity share**	**Alt 2: Bonds**	**Alt 3: Preference shares**
EBIT	5,50,000	5,50,000	5,50,000
Less: Interest	4,000	18,000	4,000
Taxable income	5,46,000	5,32,000	5,46,000
Less: taxes @ 50%	2,73,000	2,66,000	2,73,000
Income after taxes	2,73,000	2,66,000	2,73,000
Less: dividend on preference shares	10,000	10,000	24,875
Earnings available for equity shareholders	2,63,000	2,56,000	2,48,125
No. of equity shares	45,000	40,000	40,000
EPS	**Rs. 5.84**	**Rs. 6.40**	**Rs. 6.20**

(ii) Equivalency level of Earnings between Common stock and Debt plan:

$$\frac{\left(x-1_1\right)\left(1-t\right)-P_1}{N_1} = \frac{\left(x-1_1-1_2\right)\left(1-t\right)-P_1}{N_2}$$

Where X = EBIT

I = Interest rate

t= tax rate

P = Dividend to preference shareholders

N= no. of equity shares

or, $\frac{(X - Rs.4,000)(0.5) - Rs.10,000}{45,000} = \frac{(X = Rs.4,000 - Rs.14,000)(05) - Rs.10,000}{40,000}$

Or, $\frac{0.5X - Rs.12,000}{45,000} = \frac{0.5X - Rs.19,000}{40,000}$

or, 20,000 X - Rs. 48,00,00,000 = 22,500 X - Rs. 85,50,00,000

X (EBIT) = Rs. 1,50,000

(iii) Equivalency level of Earnings between preferred stock and common stock plan:

$$\frac{(X - 1_1)(1-t) - P_1 - P_2}{N_2} = \frac{(X - 1_1)(1-t) - P_1}{N_1}$$

Or, $\frac{(X - Rs.4,000)(0.5) - Rs.24,875}{40,000} = \frac{(X - Rs.4,000)(0.5) - Rs.10,000}{45,000}$

or, 22,500 X - Rs, 1209375000 = 20,000 X- Rs. 480000000

X (EBIT) = Rs. 2,91,750