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**SUGGESTED SOLUTION**  
**INTERMEDIATE N'18 EXAM**

**SUBJECT- F.M.**

**Test Code – CIN 5021**

**(Date :)**

**Head Office : Shraddha, 3<sup>rd</sup> Floor, Near Chinai College, Andheri (E), Mumbai – 69.**

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## ANSWER-1

### ANSWER-A

#### Working Notes:

(6 marks)

- (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

**Balance Sheet as at 31st March, 2016**

**(2 marks)**

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
	<b>42,00,000</b>			<b>42,00,000</b>

**(b) Statement Showing Working Capital Requirement**

**(2 MARKS)**

		Rs.
<b>A.</b>	<b>Current Assets</b>	
	(i) Stocks	3,75,000
	(ii) Receivables (Debtors) (Rs.5,00,000 ÷ 1.25)	4,00,000
	(iii) Cash in hand and at bank	2,50,000
	Total Current Assets	10,25,000
<b>B.</b>	<b>Current Liabilities</b>	
	Total Current Liabilities	7,50,000
	Net Working Capital (A-B)	2,75,000
Add.	Provision for contingencies (1/9 <sup>th</sup> of Net Working Capital)	30,556
	Working Capital requirement	3,05,556

## ANSWER-B

(i) Walter's model is given by –

(6 marks)

$$P = [D + (E - D) (r / K_e)] / K_e$$

Where, P = Market price per share,

E = Earnings per share = ` 20,00,000 ÷ 4,00,000 = ` 5  
D = Dividend per share = 60% of 5 = ` 3

r = Return earned on investment = 15%

K<sub>e</sub> = Cost of equity capital = 12%

$$\begin{aligned} \therefore P &= [3 + (5 - 3) \times (0.15 / 0.12)] / 0.12 \\ &= [3 + (2) \times (0.15 / 0.12)] / 0.12 \\ &= \text{Rs. } 45.83 \end{aligned}$$

(ii) According to Walter's model when the return on investment is more than the cost of equity capital, the price per share increases as the dividend pay-out ratio decreases. Hence, the optimum dividend pay-out ratio in this case is Nil. So, at a payout ratio of zero, the market value of the company's share will be:-

$$P = [0 + (5 - 0) \times (0.15 / 0.12)] / 0.12$$

(2 marks)

$$= \text{Rs. } 52.08$$

(iii) The share price is increased by  $[(52.08 - 45.83) / 45.83] \times 100 = 13.64\%$  increased due to non – payment of dividend which is higher than Investors' expectations. (2 marks)

## ANSWER-2

### ANSWER-A

(i) Calculation of Cost of Capital for each source of capital:

(a) Cost of Equity share capital:

$$K_e = \frac{D_0(1+g)}{\text{Market Price per share}(P_0)} + g = \frac{25\% \times \text{Rs. } 100 (1+0.05)}{\text{Rs. } 200} + 0.05$$

$$= \frac{\text{Rs. } 26.25}{\text{Rs. } 200} + 0.05 = 0.18125 \text{ or } 18.125\%$$

(b) Cost of Preference share capital (K<sub>p</sub>) = 9%

(c) Cost of Debentures (K<sub>d</sub>) = r (1 - t)

$$= 11\% (1 - 0.3) = 7.7\%$$

(d) Cost of Retained Earnings: K<sub>s</sub> = K<sub>e</sub> (1 - t<sub>p</sub>) = 18.125 (1 - 0.2) = 14.5%. (4\*1 = 4 MARKS)

**(ii) Weighted Average Cost of Capital on the basis of book value weights**

Source	Amount (Rs.)	Weights (a)	After tax Cost of Capital (%) (b)	WACC (%) (c) = (a) x (b)
Equity share	80,00,000	0.40	18.125	7.25
9% Preference share	20,00,000	0.10	9.000	0.90
11% Debentures	60,00,000	0.30	7.700	2.31
Retained earnings	40,00,000	0.20	14.500	2.90
	2,00,00,000	1.00		13.36

**(3 MARKS)**

**(iii) Weighted Average Cost of Capital on the basis of market value weights**

Source	Amount (Rs.)	Weights (a)	After tax Cost of Capital (%) (b)	WACC (%) (c) = (a) x (b)
Equity share	1,60,00,000	0.640	18.125	11.60
9% Preference share	24,00,000	0.096	9.000	0.864
11% Debentures	66,00,000	0.264	7.700	2.033
	2,50,00,000	1.000		14.497

**(3 MARKS)**

**ANSWER-B**

**Working Notes:**

**(4\*1 = 4 MARKS)**

**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

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

**(5 MARKS)**

**(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.

**(1 MARK)**

**ANSWER-3****ANSWER-A****(10 MARKS)****Computation of Operating and Financial Leverage**

Actual Production and Sales: 60% of 10,000 = 6,000 units

Contribution per unit: Rs. 30 – Rs. 20 = Rs. 10

Total Contribution: 6,000 · Rs. 10 = Rs. 60,000

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	35,000	40,000	35,000
	=1.5	=1.71	=1.5	=1.71
Financial Leverage = $\frac{EBIT}{EBT}$	40,000	35,000	40,000	35,000
	35,200	30,200	38,800	33,800
	= 1.14	= 1.16	= 1.03	= 1.04

## ANSWER-B

### 1. Market Price per Share [Different Payout Ratio and Growth Rate]

	Particulars	ATL	UTA	EWC
(a)	Earnings per Share [EPS]	Rs. 110	Rs. 25	Rs. 150
(b)	Pay Out Ratio	20%	40%	10%
(c)	Required Rate of Return i.e. ( $K_e$ )	15%	18%	20%
(d)	Future Growth Rate expected in Dividend	5%	10%	10%
(e)	Dividend per Share [EPS x Payout Ratio][Year 0][ $(a) \times (b)$ ]	$(Rs. 110 \times 20\%) =$ Rs. 22	$(Rs. 25 \times 40\%) =$ Rs. 10	$(Rs. 150 \times 10\%) =$ Rs. 15
(f)	DPS [Year 1] [ $(e) + (d)$ ]	$(Rs. 22 + 5\%) =$ Rs. 23.10	$(Rs. 10 + 10\%) =$ Rs. 11	$(Rs. 15 + 10\%) =$ Rs. 16.50
(g)	Market Price per Share = $\frac{D_1}{K_e - g}$	$\frac{Rs.23.10}{15\% - 5\%}$ = Rs.231	$\frac{Rs.11}{18\% - 10\%}$ =Rs.137.50	$\frac{Rs.16.5}{20\% - 10\%}$ =Rs.165

(5 MARKS)

### 2. Market Price per Share [Uniform Payout Ratio and Growth Rate]

Particulars	ATL	UTA	EWC
(a) Earnings per Share [EPS]	Rs.110	Rs.25	Rs. 150
(b) Pay Out Ratio	30%	30%	30%



(c) Required Rate of Return / Cost of Equity ( $K_e$ )	15%	18%	20%
(d) Future Growth Rate expected in Dividend	10%	10%	10%
(e) Dividend per Share [EPS x Payout Ratio] $r(a) \times (b)$	(Rs. 110 X 30%) = Rs. 33	(Rs. 25 X 30%) = Rs. 7.50	(Rs. 150 x 30%) = Rs. 45
(f) DPS [Year 1] [(e) + (d)]	36.3	8.25	49.5
(g) Market Price per Share = $\frac{D_1}{K_e - g}$	$\frac{Rs.36.3}{15\%-10\%}$ =Rs.726	$\frac{Rs.8.25}{18\%-10\%}$ =Rs.103.125	$\frac{Rs.49.5}{20\%-10\%}$ =Rs.495

(5 MARKS)

**ANSWER-4**

**ANSWER-A**

**CASH BUDGET FOR THE PERIOD JULY-DECEMBER 2010**

(Figures in Rs. lacs)

	July	Aug.	Sept.	Oct.	Nov.	Dec.
Cash in the beginning	5	7	7	7	7	7
Cash Inflows : Cash Sales	8	8	10	10	12	13
Debtors Collection	30	32	36	40	44	50
Interest Received	-	-	2	-	-	2
Sale of fixed assets	-	20	-	-	-	-
Total cash (A)	43	67	55	57	63	72
Cash Outflows :						
Purchases	14	16	17	20	20	25
Expenses	5	6	6	6	7	7
Wages and Salaries	13	14	16	18	19	21
Total Outflows (B)	32	36	39	44	46	53
Balance at the end (A-B)	11	31	16	13	17	19
Investment in Government Securities	4	24	9	6	10	12
Closing Balance	7	7	7	7	7	7

(6 MARKS)

**Working Notes:****(4 MARKS)**

1. Cash collected from debtors has been calculated follows :

**(Figures in Rs.)**

	June	July	Aug.	Sept.	Oct.	Nov.
Credit sales Cash collected	28	32	32	40	40	48
(Previous Month) Cash collected	-	14	16	16	20	20
(Current Month)	-	1,6	16	20	20	24
Total cash collected	-	30	32	36	40	44

2. Cash balance in excess of Rs. 7,00,000 has been invested in Government Securities. No borrowing is required in any of these month as the cash balance is more than the minimum cash requirement.
3. Since wages and salaries are payable with a time lag of 15 days, therefore, in a particular month the amount of wages and salaries payable would be the sum of wages and salaries of the 2nd half of the previous month and the 1st half of the current month.

**ANSWER-B**

Particulars	Rs.
Total Sales	Rs. 200 lakhs
Credit Sales (80%)	Rs. 160 lakhs
Receivables for 40 days	Rs. 80 lakhs
Receivables for 120 days	Rs. 80 lakhs
Average collection period $[(40 \times 0.5) + (120 \times 0.5)]$	80 days
Average level of Receivables (Rs. 1,60,00,000 x 80/360)	Rs.35,55,556
Factoring Commission (Rs. 35,55,556 x 2/100)	Rs.71,111
Factoring Reserve (Rs. 35,55,556 x 10/100)	Rs. 3,55,556
Amount available for advance {Rs. 35,55,556 - (3,55,556 + 71,111)}	Rs.31,28,889
Factor will deduct his interest 18% :	Rs. 1,25,156
Interest = $\frac{\text{Rs.}31,28,889 \times 18 \times 80}{100 \times 360}$	
Advance to be paid (Rs. 31,28,889 - Rs. 1,25,156)	Rs.30,03,733

**(4 MARKS)**

- (i) **Statement Showing Evaluation of Factoring Proposal**

		Rs.
<b>A.</b>	<b>Annual Cost of Factoring to the Firm:</b>	
	Factoring commission (Rs. 71,111 x 360/80)	3,20,000
	Interest charges (Rs. 1,25,156 x 360/80)	5,63,200
	Total	8,83,200
<b>B.</b>	<b>Firm's Savings on taking Factoring Service:</b>	Rs.
	Cost of credit administration saved	2,40,000
	Bad Debts (Rs. 160,00,000 x 1/100) avoided	1,60,000
	Total	4,00,000
<b>C.</b>	<b>Net Cost to the firm (A - B) (Rs. 8,83,200 - Rs. 4,00,000)</b>	4,83,200

$$\text{Effective cost of factoring} = \frac{\text{Rs. } 4,83,200}{\text{Rs. } 30,03,733} \times 100 = 16.09\% \text{ *}$$

\* If cost of factoring is calculated on the basis of total amount available for advance, then, it will be

$$= \frac{\text{Rs. } 4,83,200}{\text{Rs. } 31,28,889} \times 100 = 15.44\%$$

- (ii) If Bank finance for working capital is available at 14%, firm will not avail factoring service as 14% is less than 16.08% (or 15.44%) **(6 MARKS)**

## ANSWER-5

## ANSWER-A

### Statement of Working Capital Requirement for PQ Ltd

		Rs.	Rs.
<b>A.</b>	<b>Current Assets</b>		
(i)	Inventories :		
	Material (1 Month) $\left( \frac{\text{Rs. } 45,00,000}{12 \text{ months}} \times 1 \text{ month} \right)$	3,75,000	
	Finished goods (1 Month) $\left( \frac{\text{Rs. } 1,35,00,000}{12 \text{ months}} \times 1 \text{ month} \right)$	11,25,000	15,00,000
(ii)	Receivables (Debtors)		
	For Domestic Sales $\left( \frac{\text{Rs. } 98,00,000}{12 \text{ months}} \times 1 \text{ month} \right)$	8,16,667	
	For Export Sales $\left( \frac{\text{Rs. } 49,00,000}{12 \text{ months}} \times 3 \text{ month} \right)$	12,25,000	20,41,667

(iii)	Cash in hand and at bank (Rs. 10,00,000 – Rs. 5,00,000)		5,00,000
	Total Current Assets		40,41,667
<b>B.</b>	<b>Current Liabilities :</b>		
(i)	Payables (Creditors) for materials (2 months) $\left( \frac{\text{Rs. 45,00,000}}{12 \text{ months}} \times 2 \text{ months} \right)$		7,50,000
(ii)	Outstanding wages (0.5 months) $\left( \frac{\text{Rs. 36,00,000}}{12 \text{ months}} \times 0.5 \text{ month} \right)$		1,50,000
(iii)	Outstanding manufacturing expenses $\left( \frac{\text{Rs. 54,00,000}}{12 \text{ months}} \times 1 \text{ month} \right)$		4,50,000
(iv)	Outstanding administrative expenses $\left( \frac{\text{Rs. 12,00,000}}{12 \text{ months}} \times 1 \text{ month} \right)$		1,00,000
(v)	Income tax payable (Rs. 15,00,000 ÷ 4)		3,75,000
	Total Current Liabilities		18,25,000
	Net Working Capital (A-B)		22,16,667
	Add : 15% contingency margin		3,32,500
	Total Working Capital required		25,49,167

(10 MARKS)

## ANSWER-B

### Ascertainment of probable price of shares of Akash limited

Particulars	Plan-I	Plan-II
	If Rs. 4,00,000 is raised as debt (Rs.)	If Rs. 4,00,000 is raised by issuing equity shares (Rs.)
Earnings Before Interest and Tax (EBIT) {20% of new capital i.e. 20% of (Rs. 14,00,000 + Rs. 4,00,000)} (Refer working note1)	3,60,000	3,60,000
Less: Interest on old debentures (10% of Rs. 4,00,000)	(40,000)	(40,000)
Less: Interest on new debt (12% of Rs. 4,00,000)	(48,000)	—
Earnings Before Tax (EBT)	2,72,000	3,20,000
Less: Tax @ 50%	<u>(1,36,000)</u>	<u>1,60,000</u>

Earnings for equity shareholders (EAT)	<u>1,36,000</u>	<u>1,60,000</u>
No. of Equity Shares (refer working note 2)	30,000	40,000
Earnings per Share (EPS)	Rs. 4.53	Rs. 4.00
Price/ Earnings (P/E) Ratio (refer working note 3)	8	10
Probable Price Per Share (PE Ratio × EPS)	Rs. 36.24	Rs. 40

(4 MARKS)

**Working Notes:**

(3\*2= 6 MARKS)

**1. Calculation of existing Return of Capital Employed (ROCE):**

	<b>Rs.</b>
Equity Share Capital (30,000 shares x Rs.10)	3,00,000
10% Debentures $\left( \text{Rs.}40,000 \times \frac{100}{10} \right)$	4,00,000
Reserves and surplus	7,00,000
Total Capital Employed	14,00,000
Earnings before interest and tax (EBIT) (given)	2,80,000
ROCE = $\frac{\text{Rs.}2,80,000}{\text{Rs.}14,00,000} \times 100$	20%

**2. Number of Equity Shares to be issued in Plan-II:**

$$= \frac{\text{Rs.}4,00,000}{\text{Rs.}40} = 10,000 \text{ shares}$$

Thus, after the issue total number of shares = 30,000+ 10,000 = 40,000 shares

**3. Debt/Equity Ratio if Rs. 4,00,000 is raised as debt:**

$$= \frac{\text{Rs. } 8,00,000}{\text{Rs. } 18,00,000} \times 100 = 44.44\%$$

As the debt equity ratio is more than 40% the P/E ratio will be brought down to 8 in

Plan-I.