

STRATEGIC FINANCIAL MANAGEMENT [C3] – CHARTERED LEVEL**Marks****Question No. 1****(a) Forecast Income Statement:**

	Rupees	
Net sales	5,000,000	½
Less: Cost of goods sold:		
Inventories opening	850,000	½
Add: Net purchases	3,255,000	½
Less: Inventory closing (increase 30% as sales)	<u>(1,105,000)</u> 3,000,000	1
Gross profit	2,000,000	½
Less: Other expenses (20% of sales)	<u>1,000,000</u>	½
Profit before tax	1,000,000	½
Less: Tax	<u>310,000</u>	½
Profit after tax	690,000	½

(b) Forecast Statement of Financial Position:

Assets		Liabilities and Equity		Rupees
Non-current assets (Net of depreciation)	1,500,000	Equity:		¼
Current assets:		Common stock	1,000,000	¼
Cash	500,000	Retained earning	2,110,000	½
Marketable securities	870,000	Total equity	3,110,000	¼+¼
Accounts receivable (Sales÷360x45)	625,000	Current liabilities:		¼
Inventories	1,105,000	Accounts payable (Purchase ÷ 12)	271,250	½+½
Total current assets	3,100,000	Accrued expenses (W-1)	450,000	¼+¼
Total assets	4,600,000	Bank borrowings (Balancing figure)	768,750	¼+¼
		Total current liabilities	1,490,000	¼
		Total equity and liabilities	4,600,000	¼+¼

W-1: Accrued expenses:

	Rupees	
Accrued expenses (opening)	400,000	
Add: Expenses excluding depreciation	300,000	
Less: Paid	<u>(250,000)</u>	
Accrued expenses (closing)	450,000	½

STRATEGIC FINANCIAL MANAGEMENT [C3] – CHARTERED LEVEL**Marks**

(c) Forecast Statement of Cash Flows:

	Rupees	
Cash flow from operating activities:		
Net income	690,000	½
Add: Depreciation	700,000	½
Cash provided (used) by current assets and current liabilities		
Decrease in account payable	(528,750)	½
Increase in accrued expenses	50,000	½
Increase in accounts receivable	(25,000)	½
Increase in inventory	(255,000)	½
Net cash provided by operating activities	631,250	
Cash flow from investing activities:		
Increase in non-current assets	(700,000)	½
Cash flow from financing activities:		
Increase in bank borrowing	168,750	½
Net increase in cash	100,000	½
Opening balance of cash	400,000	
Closing balance of cash	500,000	½

Question No. 2

Profit or Loss Account:

	Rs. '000'			
	Current	Policy-A	Policy-B	
Sales	6,000,000	7,200,000	7,800,000	¼ + ¼
Less: Cost of goods sold:				
Materials used	2,400,000	2,880,000	3,120,000	¼ + ¼
Direct labour	1,800,000	2,160,000	2,340,000	¼ + ¼
Overhead (excluding depreciation)	600,000	720,000	780,000	¼ + ¼
Depreciation	50,000	50,000	50,000	¼ + ¼
Finished goods (opening)	400,000	450,000	450,000	¼ + ¼
Finished goods (closing)	(450,000)	(600,000)	(650,000)	¼ + ¼
	4,800,000	5,660,000	6,090,000	½ + ½
Gross profit	1,200,000	1,540,000	1,710,000	½ + ½
Less: Admin and selling expenses	600,000	720,000	780,000	¼ + ¼
Less: Bad debts	–	108,000	156,000	¼ + ¼
Profit before tax	600,000	712,000	774,000	½ + ½
	OR	$3\frac{3}{4}$	+ $3\frac{3}{4}$	= $7\frac{1}{2}$

STRATEGIC FINANCIAL MANAGEMENT [C3] – CHARTERED LEVEL**Marks**

Working Capital Requirement:

	Rs. '000'			
	Current	Policy-A	Policy-B	
Current assets:				
Raw materials	400,000	480,000	520,000	½ + ½
Finished goods	450,000	600,000	650,000	½ + ½
Accounts receivables	300,000	600,000	975,000	½ + ½
	1,150,000	1,680,000	2,145,000	
Current liabilities:				
Accounts payables	600,000	720,000	780,000	½ + ½
Direct labour	150,000	180,000	195,000	½ + ½
Overheads	50,000	60,000	65,000	½ + ½
Admin and selling	50,000	60,000	65,000	½ + ½
	850,000	1,020,000	1,105,000	
Working capital requirement	300,000	660,000	1,040,000	¼ + ¼
	OR	3¾	+	3¾
			=	7½

Question No. 3**(a) Price of the Bonds:**

$$\begin{aligned}
 n &= (25 \times 2) - (2 \times 5) &= 40 & 1 \\
 i &= 10\% \div 2 &= 5\% & \frac{1}{2} \\
 \text{PMT} &= \text{Rs.}1,000 \times 12\% &= \text{Rs.} 60 & 1
 \end{aligned}$$

$$\begin{aligned}
 \text{Price of the bonds} &= \sum_{t=1}^T \frac{(C \times \text{Par})}{(1+kd)^t} + \frac{\text{Par}}{(1+kd)^t} \\
 &= \sum_{t=1}^{40} \frac{\text{Rs.}60}{(1+0.05)^t} + \frac{\text{Rs.}1,000}{(1+0.05)^{40}} & 1 \\
 &= \text{Rs.} 60 \times 17.159 + \text{Rs.}1,000 \times 0.142 & \frac{1}{2} \\
 &= \text{Rs.}1,030 + \text{Rs.}142 & \frac{1}{2} \\
 &= \text{Rs.} 1,172 & \frac{1}{2}
 \end{aligned}$$

STRATEGIC FINANCIAL MANAGEMENT [C3] – CHARTERED LEVEL**Marks****(b) Price of the Bonds:**

$$\begin{aligned} n &= (25 \times 2) - (2 \times 4) &= 42 & 1 \\ i &= 16\% \div 2 &= 8\% & \frac{1}{2} \\ \text{PMT} &= \text{Rs.}1,000 \times 12\% &= \text{Rs.} 60 & 1 \end{aligned}$$

$$\begin{aligned} \text{Price of the bonds} &= \sum_{t=1}^T \frac{(\text{CxPar})}{(1+kd)^t} + \frac{\text{Par}}{(1+kd)^t} \\ &= \sum_{t=1}^{42} \frac{\text{Rs.}60}{(1+0.08)^t} + \frac{\text{Rs.}1,000}{(1+0.08)^{42}} & 1 \\ &= \text{Rs.} 60 \times 12.007 + \text{Rs.}1,000 \times 0.039 & \frac{1}{2} \\ &= \text{Rs.}720 + \text{Rs.}39 & \frac{1}{2} \\ &= \text{Rs.} 759 & \frac{1}{2} \end{aligned}$$

(c) Price of the Bonds:

As the time progresses, the price/ value of the bond will slowly decrease. This table illustrates that:

$$\begin{aligned} i &= 10\% \div 2 &= 5\% \\ \text{PMT} &= \text{Rs.}1,000 \times 12\% &= \text{Rs.} 60 \end{aligned}$$

$$\text{Price of the bonds} = \sum_{t=1}^T \frac{(\text{CxPar})}{(1+kd)^t} + \frac{\text{Par}}{(1+kd)^t}$$

n	Bond Price (Rs.)	
50	$\sum_{t=1}^{50} \frac{\text{Rs.}60}{(1+0.05)^t} + \frac{\text{Rs.}1,000}{(1+0.05)^{50}}$	1,182
40	$\sum_{t=1}^{40} \frac{\text{Rs.}60}{(1+0.05)^t} + \frac{\text{Rs.}1,000}{(1+0.05)^{40}}$	1,172
30	$\sum_{t=1}^{30} \frac{\text{Rs.}60}{(1+0.05)^t} + \frac{\text{Rs.}1,000}{(1+0.05)^{30}}$	1,153
20	.	.
10	.	.
5	.	.
0	$\sum_{t=1}^0 \frac{\text{Rs.}60}{(1+0.05)^t} + \frac{\text{Rs.}1,000}{(1+0.05)^0}$	1,000

STRATEGIC FINANCIAL MANAGEMENT [C3] – CHARTERED LEVEL**Marks****Question No. 4****(a) Degree of Operating Leverage (DOL):**

	Rupees					
	Proposed Situations					
	Good	Better	Best			
Contribution margin	742,500	742,500	742,500	$\frac{1}{4} + \frac{1}{4} + \frac{1}{4}$		
Less: Fixed cost	310,000	330,000	350,000	$\frac{1}{4} + \frac{1}{4} + \frac{1}{4}$		
Earnings before interest and tax (EBIT)	432,500	412,500	392,500	$\frac{1}{4} + \frac{1}{4} + \frac{1}{4}$		
DOL	1.72	1.80	1.89	$\frac{1}{4} + \frac{1}{4} + \frac{1}{4}$		
OR	1	+	1	+	1 =	3

Degree of Financing Leverage (DFL):

	Rupees					
	Proposed Financial Plans					
	Alpha	Beta	Gamma			
Situation – Good:						
EBIT	432,500	432,500	432,500	$\frac{1}{4} + \frac{1}{4} + \frac{1}{4}$		
Less: Interest	240,000	264,000	280,000	$\frac{1}{4} + \frac{1}{4} + \frac{1}{4}$		
EBT	192,500	168,500	152,500	$\frac{1}{4} + \frac{1}{4} + \frac{1}{4}$		
DFL	2.25	2.57	2.84	$\frac{1}{4} + \frac{1}{4} + \frac{1}{4}$		
OR	1	+	1	+	1 =	3
Situation – Better:						
EBIT	412,500	412,500	412,500	$\frac{1}{4} + \frac{1}{4} + \frac{1}{4}$		
Less: Interest	240,000	264,000	280,000	$\frac{1}{4} + \frac{1}{4} + \frac{1}{4}$		
EBT	172,500	148,500	132,500	$\frac{1}{4} + \frac{1}{4} + \frac{1}{4}$		
DFL	2.39	2.78	3.11	$\frac{1}{4} + \frac{1}{4} + \frac{1}{4}$		
OR	1	+	1	+	1 =	3
Situation – Best:						
EBIT	392,500	392,500	392,500	$\frac{1}{4} + \frac{1}{4} + \frac{1}{4}$		
Less: Interest	240,000	264,000	280,000	$\frac{1}{4} + \frac{1}{4} + \frac{1}{4}$		
EBT	152,500	128,500	112,500	$\frac{1}{4} + \frac{1}{4} + \frac{1}{4}$		
DFL	2.57	3.05	3.49	$\frac{1}{4} + \frac{1}{4} + \frac{1}{4}$		
OR	1	+	1	+	1 =	3

(b) Degree of total leverage:

	Proposed Financial Plans					
	Alpha	Beta	Gamma			
Situation – Good	3.87	4.42	4.88	$\frac{1}{4} + \frac{1}{4} + \frac{1}{4}$		
Situation – Better	4.30	5.00	5.60	$\frac{1}{4} + \frac{1}{4} + \frac{1}{4}$		
Situation – Best	4.86	5.76	6.60	$\frac{1}{4} + \frac{1}{4} + \frac{1}{4}$		
OR	$\frac{3}{4}$	+	$\frac{3}{4}$	+	$\frac{3}{4}$ =	$2\frac{1}{4}$

The above tabulated information suggested the highest value in situation 'Best' being financed by 'Gamma' and lowest value in situation 'Good' being financed by 'Alpha'.

 $\frac{3}{4}$

STRATEGIC FINANCIAL MANAGEMENT [C3] – CHARTERED LEVEL**Marks****Question No. 5****(a) (i) Cost of Debt:**

$$\text{Cost of debt } (r_d) = \frac{1 + \frac{\text{Rs.100} - N_d}{n}}{N_d + \text{Rs.100}} \times 100$$

$$r_d = \frac{10 + \frac{\text{Rs.100} - \text{Rs.95}}{10}}{\frac{\text{Rs.95} + \text{Rs.100}}{2}} = 10.77\% \quad 2$$

$$r_i = r_d(1 - t)$$

$$r_i = 10.77\%(1 - 31\%) = 7.43\% \quad 1$$

(ii) Cost of Preferred Stock:

$$\text{Cost preferred stock } (r_{ps}) = \frac{\text{Rs.100}(11\%)}{\text{Rs.96}} = 11.46\% \quad 1$$

(iii) Cost of Retained Earnings:

$$\text{Cost of retained earnings } (r_s) = \frac{\text{Rs.5}}{\text{Rs.120}} + 6.0\% = 10.17\% \quad 2$$

(iv) Cost of New Common Stock:

$$\text{Cost of new common stock } (r_n) = \frac{\text{Rs.5}}{\text{Rs.112}} + 6.0\% = 10.46\% \quad 2$$

(b) Weighted Average Cost of Capital (WAAC):

Source of Capital	Weight (1)	Cost (%) (2)	WAAC (1 x 2)	
Long-term debt	40	7.43	2.97	
Preferred stock	15	11.46	1.72	
Common stock equity	45	10.17	4.58	
Total	100	–	9.27	2

STRATEGIC FINANCIAL MANAGEMENT [C3] – CHARTERED LEVEL**Marks****Question No. 6****(a) Dividend Policy:**

Year	Net Earnings per Share	Net Dividend per Share	Rupees
			Dividend Pay-out Ratio
2010	1.70	0.60	35%
2011	1.45	0.72	50%
2012	1.38	0.86	62%
2013	1.34	0.91	68%
2014	1.22	1.00	82%
	28%	67%	

1

During this period, earnings per share have declined by 28% while at the same time dividend per share has increased by 67%. The pay-out ratio has increased from 35% in year 2010 to 82% in year 2014, thus the proportion of earning retained has fallen to 18%. If it is assumed that the capital structure has not changed over the period, then it can be seen that both actual earnings and the return on capital employed have declined over the period.

1

Retention Policy:

One possible implication of this policy is that insufficient earnings have been retained to finance the investment required to at least maintain the rate on capital employed. Of this means that the company is falling behind its competitors, then this could have a serious impact on the long-term profitability of the business.

1

(b) For the purpose of calculation, it is assumed that any new investment will earn a rate of return equivalent to that required by the shareholders i.e., 18% per annum and that this will also be the level of return that is earned on existing investments for the foreseeable future.

Strategy-1:

The amount of dividend per share is Re.1 with no growth forecast. The rate of return required by the shareholder is 18% p.a. The theoretical share price can be estimated using the dividend valuation model.

1

$$K_e = d_1 \div P_0$$

Where:

$$K_e = \text{Cost of equity}$$

$$d_1 = \text{Dividend per share}$$

$$P_0 = \text{Market price per share}$$

$$18\% = \text{Re. } 1 \div P_0$$

1

$$P_0 = \text{Rs. } 5.55 \text{ per share}$$

$$P_0 = \text{Rs. } 6.55 \text{ per share cum dividend}$$

100% of the total return is provided in the form of dividend.

1

Strategy-2:

50% of total earnings is expected return in the form of dividend and remaining as capital appreciation.

1

The rate of growth of dividend "g" may be calculated as under:

$$g = r \times b$$

STRATEGIC FINANCIAL MANAGEMENT [C3] – CHARTERED LEVEL**Marks**

Where:

 $r =$ Required rate of return $b =$ Portion of profit retained $g = 18\% \times 50\%$ $g = 9.00\%$

1

 $P_o = d_1(1 + g) \div (r - g)$ $P_o = (0.5 \times 1.09) \div (0.18 - 0.09)$ $P_o = 6.06$

1

 $P_o =$ Rs. 6.56 per share cum dividend

Strategy-3:

35% of total earnings is expected return in the form of dividend and remaining as capital appreciation.

1

The rate of growth of dividend "g" may be calculated as under:

 $g = r \times b$

Where:

 $r =$ Required rate of return $b =$ Portion of profit retained $g = 18\% \times 65\%$ $g = 11.70\%$

1

 $P_o = d_1(1 + g) \div (r - g)$ $P_o = (0.35 \times 1.1170) \div (0.18 - 0.1170)$ $P_o = 6.21$

1

 $P_o =$ Rs. 6.56 per share cum dividend

Strategy-4:

In this case, for a share price of Rs. 5.55 per share, the investors would need to believe that retained profits will be invested in projects yielding annual growth of 18% and that the share price will grow at this rate. 100% of the expected return is provided in the form of capital appreciation under this strategy.

3

STRATEGIC FINANCIAL MANAGEMENT [C3] – CHARTERED LEVEL**Marks****Question No. 7****(a) (i)** Implied Annual Interest Rate:

$$\frac{F_0}{S_0} = \frac{1+ic}{1+ib}$$

$$\frac{110.350}{104.775} = \frac{1+ic}{1+6\%}$$

3

Implied annual interest rate = 11.64%

1

(ii) The current PKR value of the future US \$ receipts = US \$ 100,000 × 104.775 = 1
 = PKR 10,477,500 = 1

If a forward contract is taken out Maven Limited can lock into three months forward exchange rate of 106.140 PKR per US \$. Future PKR value using the forward contract is as under: 1

Future value = US \$ 100,000 × 106.140 = ½
 = PKR 10,614,000 = 1

Gain in PKR using the forward contract = PKR 10,614,000 – 10,477,500 = ½
 = PKR 136,500 = 1

(b) Cash Settlement Payment at Expiration:

If the long could borrow at the contract rate of 5%, rather than the market rate of 6% , the interest saved on a 90-day Rs.1 million loan would be: 1

$$(0.06 - 0.05)(90 \div 360) \times 1 \text{ million} = 0.0025 \times 1 \text{ million} = \text{Rs.2,500} \quad 2$$

The Rs.2,500 in interest savings would not come until the end of the 90-day loan period. The value at settlement is the present value of these savings. The correct discount rate to use is the actual rate at settlement, 6%, not the contract rate of 5%. 1

The payment at settlement from the short to the long is:

$$\frac{2,500}{1 + (0.06) \times (90 \div 360)} = \text{Rs.2,463.05} \quad 1$$

THE END