

STRATEGIC FINANCIAL MANAGEMENT – STAGE-6

Marks

Q.2 Estimation of working capital:

		Rs.	
Current assets:			
(i)	Raw material in stock = (Rs. 1,680,000 x $\frac{2}{12}$)	280,000	1
(ii)	Work-in-progress:		
	(a) Raw material (Rs. 1,680,000 x 15/100)	252,000	1
	(b) Wages and manufacturing expenses = (Rs. 1,250,000 x 0.4 x 15/100)	75,000	1
(iii)	Stock of finished goods: [Rs. 340,000 – 47,000 (0.10 x Rs. 470,000, depreciation)]	293,000	1
(iv)	Debtors:		
	(a) Cost of goods sold	3,060,000	
	Less: Depreciation included in stock (470,000 x 0.9)	423,000	
		2,637,000	1
	(b) Administrative expenses	280,000	
	(c) Selling expenses	260,000	
	Total	3,177,000	1
	Credit sales 80% of Rs.3,177,000	2,541,600	
	Debtors (2 months credit sales) Rs. 2,541,600 x $\frac{2}{12}$	423,600	1
(v)	Cash required	80,000	1
	Total current assets	1,403,600	
Current liabilities:			
(i)	Average time-lag one month in payment of expenses:		
	(a) Wages and manufacturing expenses	1,250,000	
	(b) Administrative expenses	280,000	
	(c) Selling expenses	260,000	
		1,790,000 ÷ 12	149,167
(ii)	Creditors 1½ month (Rs. 1,680,000 x 3/24)	210,000	1
	Total current liabilities	359,167	
	Net working capital: Current assets – Current liabilities	1,044,433	1
	Add. 10 percent for contingencies	104,443	1
	Net working capital required	1,148,876	

Q.3 (a) (i) Cash budget:

		Rs.					
		Nov	Dec	Jan	Feb	Mar	Apr
Sales		1,500	1,800	1,800	3,000	1,950	2,250
Collections, current month's sales 20%				360	600	390	
Collections, previous month's sales 70%				1,260	1,260	2,100	
Collections, previous 2 months sales 10%				150	180	180	
Total cash receipts				1,770	2,040	2,670	
Purchases 60% of next month's sales			1,080	1,800	1,170	1,350	
Payment for purchases				1,080	1,800	1,170	
Labour costs				450	600	480	
Other expenses				300	300	300	
Total cash disbursements				1,830	2,700	1,950	
Receipts less disbursements				(60)	(660)	720	
(ii) Additional borrowings				60	660	(720)	
Cumulative borrowings				1,260	1,920	1,200	

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The amount of financing peaks in February owing to the need to pay for purchases made the previous month and higher labour costs. In March, substantial collections are made on the prior month's billings, causing large net cash inflow sufficient to pay off the additional borrowings.

(iii) Pro-forma balance sheet, March 31:

		Rs. '000 ^u	
Cash	150	Accounts payable	1,350
Accounts receivable	1,860	Bank loan	1,200
Inventories	1,905	Accruals	636
Current assets	3,915	Current liabilities	3,186
Net fixed assets	5,508	Long-term debt	1,350
		Share capital	300
		Retained earnings	4,587
Total assets	9,423	Total liabilities and equity	9,423

Presentable form of balance sheet 1

WORKINGS: RS. '000^u

Accounts receivable: Sales in March x 0.8 + sales in February x 0.1

$$= \text{Rs. } 1,950 \times 0.80 + \text{Rs. } 3,000 \times 0.10$$

$$= 1,560 + 300$$

$$= \text{Rs. } \mathbf{1,860}$$

1

Inventories: = Rs. 1,635 + (Total purchases January through March) - (Total sales January through March x 0.6)

$$1,635 + (1,800 + 1,170 \div 1,350) - [(1,800 + 3,000 + 1,950) \times 60\%] = \mathbf{1,905}$$

1

Accounts payable = Purchases in March = May sale Rs. 2250 x 0.60 = Rs. **1,350**

1

Retained earnings = Rs. 4,317 + Net profit from January to March.

		Rs. '000 ^t
Sales		6,750
Cost of goods sold		4,050
Gross profit		2,700
Operating expenses:		
Labour cost	1,530	
Other expenses	900	2,430
Net profit		270

Retained earnings = Rs. 4,317 + 270 = Rs. **4,587**

1

(b) (i) Target cash balance using the Baumol model:

The target cash balance is:

$$\begin{aligned} C^* &= \sqrt{(2T \times F) / R} \\ &= \sqrt{(2 \times \text{Rs. } 1,200,000 \times 500) / .12} \\ &= \sqrt{\text{Rs. } 10,000,000,000} \\ &= \text{Rs. } 100,000 \end{aligned}$$

2

(ii) The average cash balance will be $C^* / 2$ = Rs. 50,000

The opportunity cost of holding cash balance = Rs. 50,000 x 0.12 = **Rs. 6,000**

1

No of transactions per year = Rs. 1,200,000 ÷ 100,000 = 12

Transactions cost, or trading cost is 12 x Rs. 500 = Rs. **6,000**

1

The total cost is Rs. 6,000 + Rs. 6,000 = Rs. 12,000

(iii) The average cash balance will be Rs. 75,000 / 2 = Rs. 37,500

The opportunity cost / transaction cost = Rs. 37,500 x 0.12 = Rs. 4,500

1

No. of Transactions per year = Rs. 4,500 ÷ 500 = 9

The annual requirement = Rs. 75,000 x 9 Trsct. = **Rs. 675,000**

1

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Q.4 (a) 10% Scenario:

	Base Case	Best Case	Worst Case	
Units sales	2,500	2,750	2,250	
Unit price	1,500	1,650	1,350	
Sales revenue (unit sold x unit price)	3,750,000	4,537,500	3,037,500	
Variable cost (2,500 x 900)	2,250,000	2,227,500	2,227,500	
Contribution margin	1,500,000	2,310,000	810,000	
Cash fixed cost	350,000	315,000	385,000	
+ Depreciation	300,000	300,000	300,000	
Total fixed cost	650,000	615,000	685,000	
EBT	850,000	1,695,000	125,000	
Tax 35%	297,500	593,250	43,750	
EAT	552,500	1,101,750	81,250	
+ Depreciation	300,000	300,000	300,000	
Operating cash flow (OCF)	852,500	1,401,750	381,250	
	3	+3	+3	= 9

WORKING:

Cash Outflow at year 0:

Machinery invoice price	1,300,000
Shipping charges	40,000
Installation charges	160,000
	<u>1,500,000</u>

Depreciation expenses $\frac{1,500,000 - 0}{5 \text{ years}} = \text{Rs. } 300,000$ 1

(b) At 18%, the five-year annuity is 3.127

Base Case NPV = $-1,500,000 + (3.127 \times 852,500)$
 = $-1,500,000 + 2,665,768 = \text{Rs. } 1,165,768$ 1

Best Case NPV = $-1,500,000 + (3.127 \times 1,401,750)$
 = $-1,500,000 + 4,383,272 = \text{Rs. } 2,883,272$ 1

Worst Case NPV = $-1,500,000 + (3.127 \times 381,250)$
 = $-1,500,000 + 1,192,169 = \text{Rs. } -307,831$ 1

Project under worst-case scenario should not be undertaken as its NPV is negative Rs. 307,831. 1

(c) Cash break-even:

$\frac{\text{Cash Fixed Cost}}{\text{C/M per unit}} = \frac{\text{Rs. } 350,000}{600} = \text{583 units}$ 1

Accounting break-even = $\frac{\text{Cash Fixed Cost} + \text{Depreciation}}{\text{C/M per unit}}$
 = $\frac{350,000 + 300,000}{600} = \frac{650,000}{600} = \text{1,083 units}$ 1

Financial break-even:

To get the financial break-even, we need to find the OCF such that the project has a zero NPV. As we have seen, the five-year annuity factor is 3.127 and the project cost is Rs.1,500,000, so the OCF must be such that:

$$1,500,000 = \text{OCF} \times 3.127$$

$$\text{OCF (for zero NPV)} = \frac{1,500,000}{3.127} = \text{Rs. } 479,693 \text{ per year}$$
 1

So we have to cover

$$= 479,693 + \text{Rs. } 350,000 \text{ a cash fixed cost}$$

$$= 829,693$$
 1

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Financial break-even point:

$$\frac{\text{Rs. } 829,693}{600} = 1,382.82 \text{ OR } \mathbf{1,383 \text{ units}}$$

1

Working:	Contribution margin at base case:	Rs./ Per unit	
	Sales price	1,500	
	10% variable cost	900	
	C/M	600	

1

Q.5 (a) Computation of earnings per share and retained profits under alternative financing plans:

Particulars	Rs.			
	(i)	(ii)	(iii)	
	Issue of 10% convertible TFCs	Issue of 13% TFCs with the option to purchase equity shares	Right issue	
Earning before interest & tax	180,000	180,000	180,000	
Less: TFCs interest	20,000	52,000	—	1
Earning before tax	160,000	128,000	180,000	
Taxation @ 35%	56,000	44,800	63,000	
Profit after tax	104,000	83,200	117,000	
Number of shares	52,000	40,000	52,000	3
Earning per share	2.0	2.08	2.25	3
Dividend paid @ Re. 1 per share (on all shares as on 31-12-2010)	52,000	40,000	52,000	
Profit retained after dividend	52,000	43,200	65,000	1

(b) Cash balance under alternative financing plans:

Particulars	Rs.			
	(i)	(ii)	(iii)	
	Issue of 10% convertible TFCs	Issue of 13% TFCs with the option to purchase equity shares	Right issue	
Receipts				
TFCs issue	400,000	400,000	—	
Share capital	—	200,000	320,000	
Share premium	—	100,000	80,000	
Retained profit after dividend	52,000	43,200	65,000	
Total receipts	452,000	743,200	465,000	
Payments				
Fixed assets (acquired)	140,000	140,000	140,000	
Increase in working capital	70,000	70,000	70,000	1
Total payments	210,000	210,000	210,000	
Cash in hand	242,000	533,200	255,000	
	1	+1	+1	= 3

Alternative (ii) issuance of 13% TFCs with the option to purchase equity is generating highest cash balance of Rs.533,200.

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(c) Balance Sheets Under Alternative Financing Plans:

Particulars	Rs.			
	(i)	(ii)	(iii)	
	Issue of 10% convertible TFCs	Issue of 13% TFCs with the option to purchase equity shares	Right issue	
Assets				
Fixed Assets	500,000	500,000	500,000	1
Current Assets:				
Inventory	210,000	210,000	210,000	0.5
Accounts Receivable	150,000	150,000	150,000	0.5
Cash	242,000	533,200	255,000	
	<u>1,102,000</u>	<u>1,393,200</u>	<u>1,115,000</u>	
Liabilities				
Share Capital:				
Ordinary shares of Rs. 10 each	520,000	400,000	520,000	
Share Premium	80,000	100,000	80,000	
Retained earnings	352,000	343,200	365,000	
13% TFCs	-	400,000	-	
Accounts Payable	150,000	150,000	150,000	
	<u>1,102,000</u>	<u>1,393,200</u>	<u>1,115,000</u>	
	2	+2	+2	= 6

Though, EPS Rs. 2.25 is highest under alternative (iii) but as a whole the option (ii) is preferable because under plan (ii) the existence of debt is profitable to shareholders and maximum funds are also available to the company which may be employed to yield additional return which ultimately maximize the EPS under alternative (ii).

Basic Calculations/ Working:

(i) Earning before interest and tax during 2010 (120,000 x 1.5)	180,000
(ii) Interest on convertible TFCs for 6 months (Rs. 400,000 x 10/100 x 1/2)	20,000
(iii) Interest warrants (Rs. 400,000 x 13/100)	52,000
(iv) No. of share under alternative (a) : No. of existing shares	20,000
Add : shares to be allotted on conversion (400,000 x 80/1,000)	32,000
Number of share on 31-12-2010	52,000
(v) No. of shares under alternative (b) : No. of existing shares	20,000
Add : shares issued to TFCs with interest warrant (400,000 x 50/1,000)	20,000
Number of share on 31-12-2010	40,000
(vi) No. of shares under alternative (c) : No. of existing shares	20,000
Rights issue : 20,000 x 8/5	32,000
Number of shares on 31-12-2010	52,000
(vii) Value of various assets and liabilities as on 31-12-2010:	<u>Rs.</u>
Fixed Assets: 360,000 + 140,000 =	500,000
Debtors: 100,000 x 3/2 = 150,000	
Stocks: 140,000 x 3/2 = 210,000	360,000
Trade Creditors: 100,000 x 3/2 =	150,000
Working capital 31-12-2010	210,000
Working capital 31-12-2009 (240 – 100)	140,000
Working capital increase	70,000
(viii) Share premium as on 31-12-2010:	
(a) Nominal value of TFCs converted 400,000	
Nominal value of share allotted 320,000	80,000
(b) ----- 20,000 x Rs. 5	100,000
(c) ----- 32,000 x Rs. 2.5	80,000

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- Q.6 (a)**
- (i) **To broaden their markets.** After a company has saturated its home market, growth opportunities are often better in foreign markets. Thus, such homegrown firms as Coca are aggressively expanding into overseas markets and foreign firms such as Japanese companies now dominate the US consumer electronics market. 1
- (ii) **To seek raw materials.** Many oil companies have major subsidiaries around the world to ensure access to the basic resources needed to sustain the companies' primary business line. 1
- (iii) **To seek new technology.** No single nation holds a commanding advantage in all technologies, so companies are scouring the globe for leading scientific and design ideas. 1
- (iv) **To seek production efficiency.** Companies in high-cost countries are shifting production to low-cost regions. 1
- (v) **To avoid political and regulatory hurdles.** The primary reason Japanese auto companies moved production to the United States was to get around US import quotas. 1
- (vi) **To diversify.** By establishing worldwide production facilities and markets, firms can cushion the impact of adverse economic trends in any single country. 1
- (b)**
- (i) Debt-equity ratio of the company is $0.60/0.40 = 1.50$ 1
 New borrowing to keep the debt-equity ratio unchanged.
 $\text{Rs. } 2,500,000 \times 1.50 = \text{Rs. } 3,750,000$
 Total new financing without external equity is $\text{Rs. } 2,500,000 + 3,750,000 = \text{Rs. } 6,250,000$ 1
- (ii) Planned outlays are Rs. 4,000,000
 The needed equity is $\text{Rs. } 4,000,000 \times 0.40 = \text{Rs. } 1,600,000$ 1
 Dividend paid = $\text{Rs. } 2,500,000 \text{ earning after tax} - 1,600,000 \text{ needed equity}$
 = **Rs. 900,000** 1
- (iii) Dividend paid Rs. 900,000
 No. of shares outstanding 500,000
 Dividend per share $\text{Rs. } 900,000 / 500,000 \text{ shares} = \text{Rs. } 1.80$ 1
 Dividend yield ratio = $\text{Rs. } 1.80 / \text{Market price per share Rs. } 20 = \text{0.09 or 9\%}$ 1

(c)

Years	Average Annual Cash Flow	P. V. Factor @ 8%	Rs. million		
			P. V		
1 - 5	24	3.99	95.83		2
6 - 10	30	2.72	81.51		2
11 - 15	30	1.85	55.47		2
16 - 20	15	1.26	18.89		2
Total price of Rs. 251.70 should be paid for Syma company.			251.70		

THE END