

STRATEGIC FINANCIAL MANAGEMENT - STAGE –6

Q.2 (a) Forecast Income statement **Marks**

	(Rs. In millions)	
Sales revenue (428 x 1.09)	466.52	
Cost of sales	<u>363.89</u>	
Gross Profit (466.52 @ 22%)	102.63	01
Admin.& selling expenses	<u>18.66</u>	
Net operating profit (466.52 @ 18%)	83.97	01
Interest	<u>31.20</u>	01
Net Profit before tax	52.77	
Tax @ 35%	<u>18.47</u>	
Net Profit after tax	34.30	01
Dividends	<u>16.00</u>	01
Retained Earnings	<u>18.30</u>	

(b) Forecast Balance sheet

Non Current Assets	405.00	
Current assets		
Inventory (W-1)	94.71	01
Accounts Receivables (W-2)	<u>81.80</u>	01
	<u>176.51</u>	
Total assets	<u>581.51</u>	
Equity		
Paid up capital (8m Ordinary shares of Rs.10 each)	80.00	
Retained Earnings (W-4)	<u>141.30</u>	01
	221.30	
Long term loan	<u>220.00</u>	
	<u>441.30</u>	
Current liabilities		
Accounts Payable (W-3)	57.82	01
Bank Over draft (W-5)	<u>82.39</u>	01
	<u>140.21</u>	
Total Equity & Liabilities	<u>581.51</u>	
	Presentation	<u>01</u>
		<u>11</u>

Workings:

		<u>Rs. in million</u>
(W-1) Inventory	COS x (Inventory Turnover period / 365)	
	363.89m x (95/365)	94.71
(W-2) Accounts receivables	Sales x (Receivable period/365)	
	466.52m x (64/365)	81.80
(W-3) Accounts payables	COS x (Trade payable period/365)	
	363.89 m x (58/365)	57.82
(W-4) Retained Earnings	123.00m + 18.30m	141.30
(W-5) Bank Over draft (Balancing figure)	581.51m- 441.30-57.82	82.39

STRATEGIC FINANCIAL MANAGEMENT - STAGE –6

Q.3 (a)			Marks
(i)	Optimum economic order quantity:		
	EOQ Formula = $\sqrt{(2 \times \text{ordering cost} \times \text{annual demand}) / \text{carrying cost}}$		01
	EOQ = $\sqrt{(2 \times 450 \times 24,000 / 2.40)}$		01
	EOQ = 3,000 units		
(ii)	Total cost of inventory using EOQ:		
	Number of orders	24,000/3,000	8 per year
	Annual ordering cost	450 x 8	Rs. 3,600 per year 01
	Average inventory	3,000 / 2	1,500 Kgs.
	Annual carrying cost	1500 x 2.40	Rs. 3,600 per year 01
	Inventory cost	24,000 x 15	Rs.360,000
	Total cost of inventory	360,000+3,600 + 3,600	Rs.367,200 01
(iii)	Total cost of inventory under bulk order:		
	Order size for bulk discounts		4,000 Kg.
	Number of orders	24,000 / 4,000	6 per year
	Annual ordering cost	6 x 450	Rs. 2,700 per year 01
	Average inventory	4,000 / 2	2,000 Kg.
	Annual carrying cost	2,000 x (2.4+1.60)	Rs. 8,000 per year 01
	Discounted material cost	15 x (1-0.02)	14.70 per Kg. 01
	Inventory cost	24,000 x 14.70	Rs.352,800
	Total inventory cost with discount	352,800 + 2,700 + 8,000	Rs.363,500 01
	Saving in bulk order purchase	(367,200 – 363,500)	Rs. 3,700 01
	Conclusion: Bulk order approach will results in a slightly lower inventory cost.		
(b)	Current average collection period	30 + 10	40 days
	Current accounts receivable	24m x 40/365	Rs.2,630,137 01
	Average collection period under new policy	(0.4 x 15) + (0.6 x 60)	42 days
	New level of credit sales	(24 x (1 + 0.10))	Rs. 26.4 m
	Accounts receivable after new credit policy	26.4 x 42/ 365	Rs.3,037,808
	Increase in Accounts Receivable	(3,037,808 - 2,630,137)	Rs. 407,671 01
	Increase in financing cost of Receivable	407,671 x 0.08	Rs. 32,614 01
	Bad debt cost	26.4m x 0.01	Rs. 264,000
	Cost of discounting	26.4m x 0.0175 x 0.4	Rs. 184,800 01
	Total	Rs.481,414	
	Net contribution from increased sales	24m x 0.10 x 0.35	840,000 01
	Net benefit of policy change		358,586 01
	Conclusion:	The proposed credit policy change will increase the profitability of the company by Rs. 358,586	

STRATEGIC FINANCIAL MANAGEMENT - STAGE –6

Marks

Q.4 (a) (i) The total value of the share offer

EPS	41.6/3.0	Rs.	13.86	per share	
P/E ratio		Rs.	16		
Share price	16 x 13.86	Rs.	221.87	per share	01
Share offer	5 shares x (1.2 shares/4)		1.5	m shares issued	
Value of share offer	221.87 x 1.5m	Rs.	332.80	million	01

(ii) The earning per share of company ABC following the successful acquisition of Company XYZ

Company ABC EPS after acquisition

Earnings	41.6+14.5		56.1	million	
Number of shares	3.0m + 1.5m		4.5	million	01
EPS	56.1/ 4.5m		12.467	per share	01

(iii) The share price of Company ABC following acquisition assuming that the benefits of the acquisitions are achieved and that the price-earning ratio declines by 5%.

Share price of Company ABC after acquisition

Earning	(41.6 + 14.5 + 3.5)	Rs.	59.6		
EPS	59.6/4.5m		13.24	per share	
Revised Price earning ratio	16 * 0.95		15.2		01
Share price	15.2 x 13.24	Rs.	201.25	per share	01

(iv) Calculate the effect of the proposed takeover on the wealth of the share holders of each company

Effects on wealth of Company ABC shareholders

Original holding	3m shares x 221.87 per share	Rs.	665.61	million	
New share price	16 x 12.47	Rs.	199.472		
New share value	3m x 199.472	Rs.	598.416	million	01
Loss in share holder wealth	665.61m – 598.416m	Rs.	67.20	million	01

Effects on wealth of Company XYZ shareholders

Original earning per share	14.5m/1.2m shares	Rs.	12.08		
Price Earning ratio			12		
Share price	12 x 12.08	Rs.	144.96	per share	
Original holding	1.2m shares x 144.96	Rs.	173.95	million	
New holding	1.5m shares x 221.87	Rs.	332.80	million	01
Gain in share holder wealth	332.8m – 173.95m	Rs.	158.86	or 91.33%	01

STRATEGIC FINANCIAL MANAGEMENT - STAGE –6

	Marks
(b) (i) $\hat{K}_M = 0.1(7\%) + 0.2(9\%) + 0.4(11\%) + 0.2(13\%) + 0.1(15\%)$	01
$= 0.7\% + 1.8\% + 4.4\% + 2.6\% + 1.5\%$	
$= 11\%$	01
$k_{RF} = 6\%$. (given)	
Therefore, the SML equation is	
$K_i = k_{RF} + (k_M - k_{RF})b_i$	01
$= 6\% + (11\% - 6\%)b_i$	
$= 6\% + (5\%)b_i$	01
(ii) First, determine the fund's beta, b_F . The weights are the percentage of funds invested in each stock.	
$A = \text{Rs.}320 / 1,000 = 0.32$	
$B = \text{Rs.}240 / 1,000 = 0.24$	
$C = \text{Rs.}160 / 1,000 = 0.16$	
$D = \text{Rs.}160 / 1,000 = 0.16$	
$E = \text{Rs.}120 / 1,000 = 0.12$	
$b_F = 0.32(0.5) + 0.24(2.0) + 0.16(4.0) + 0.16(1.0) + 0.12(3.0)$	01
$= 0.16 + 0.48 + 0.64 + 0.16 + 0.36 = 1.8$	01
Next, use	
$b_F = 1.8$ in the SML determined in Part a:	
$\hat{K}_F = 6\% + (11\% - 6\%)1.8$	
$= 6\% + 9\% = 15\%$	01
(iii) $k_N = \text{Required rate of return on new stock} = 6\% + (5\%)2.0 = 16\%$.	01
An expected return of 15 percent on the new stock is below the 16 percent required rate of return on an investment with a risk of $b = 2.0$. Since $k_N = 16\% > \hat{k}_n = 15\%$, the new stock should not be purchased.	01
The expected rate of return that would make the fund indifferent to purchasing the stock is 16 percent.	01

 22

STRATEGIC FINANCIAL MANAGEMENT - STAGE –6

Q.5 (a) (i) Calculation of Net present value:**Marks**

Year	0	1	2	3	4	
Investment	(2,400,000)	–	–	–	–	
Operating cash flow (W-1)	–	950,840	882,678	843,302	607,267	
Working capital	(300,000)	–	–	–	300,000	} 01
Machinery Residual (0.4 *0.65)	–	–	–	–	260,000	
Net cash Flow	(2,700,000)	950,840	882,678	843,302	1,167,267	
Discounting at 10%	1.000	0.909	0.826	0.751	0.683	
Present values	(2,700,000)	864,314	729,092	633,320	797,244	01
Net present value	<u>323,969</u>					01

Workings for net cash flows (W-1)

Initial selling price	17.20	18.49	19.88	21.37	01
Demand	<u>115,000</u>	<u>99,000</u>	<u>88,000</u>	<u>58,000</u>	
Sales revenue	<u>1,978,000</u>	<u>1,830,510</u>	<u>1,749,154</u>	<u>1,239,315</u>	01
Variable cost/ unit	<u>5.30</u>	<u>5.62</u>	<u>5.96</u>	<u>6.31</u>	01
Variable Cost	609,500	556,380	524,480	365,980	01
Fixed overhead	<u>174,900</u>	<u>185,394</u>	<u>196,518</u>	<u>208,309</u>	01
Operating Cost	784,400	741,774	720,998	574,289	
Depreciation	<u>500,000</u>	<u>500,000</u>	<u>500,000</u>	<u>500,000</u>	01
Total Cost	<u>1,284,400</u>	<u>1,241,774</u>	<u>1,220,998</u>	<u>1,074,289</u>	
Net profit before tax	693,600	588,736	528,156	165,027	
Tax @ 35%	<u>242,760</u>	<u>206,058</u>	<u>184,855</u>	<u>57,759</u>	
Net profit after tax	<u>450,840</u>	<u>382,678</u>	<u>343,302</u>	<u>107,267</u>	01
Operating cash flows	<u>950,840</u>	<u>882,678</u>	<u>843,302</u>	<u>607,267</u>	01

(Including Depreciation Rs.500m)

Ignore product development cost of Rs.250,000 as sunk cost.

01

ii) Calculation of Internal Rate of Return

Year	0	1	2	3	4	
Net cash Flow	(2,700,000)	950,840	882,678	843,302	1,167,267	
Discount at 20%	1.000	0.833	0.694	0.579	0.482	
Present values	(2,700,000)	792,050	612,579	488,272	562,623	01
Net present value	<u>(244,477)</u>					01
Internal Rate of return = $10 + ((20 - 10) \times 323,969) / (323,969 + 244,477)$						01
= $10 + 5.69$		= 15.69%				01

iii) Calculation of Return on capital employed (accounting rate of return) based on average investment

Total net profit after tax	450,840+382,678+343,302+107,267	1,284,087	
Average annual net profit after tax		321,022	01
Average investment	2,700,000/2	1,350,000	
Return on capital employed	321,022/1,350,000	23.78%	01

STRATEGIC FINANCIAL MANAGEMENT - STAGE –6

iv) Calculation of discounted payback period.

Marks

Year	0	1	2	3	4	
Present values	(2,700,000)	864,314	729,092	633,320	797,244	
Cumulative PV	(2,700,000)	(1,835,686)	(1,106,594)	(473,274)	323,969	01
Discounted Payback		3 + (473,274/ 797,244)			3.6 years	01

- (b) Findings in each sections of (a) above and advise whether the investment proposal is financially acceptable.

The investment proposal has a positive net present value of Rs.323,969 and is therefore financially acceptable. The results of other investment appraisal methods don't alter this decision, as the NPV appraisal method always offers the right advice.

The internal rate of return is 15.69% is higher than the expected return of 10% required by the company, therefore the investment proposal is acceptable.

Return on capital employed of 23.78% is also higher than the company target return of 20%, therefore the investment proposal is acceptable.

Discounted payback period of 3.6 year is significant portion of the foreseeable life of the investment proposal of four years. The sensitivity of the investment proposal to changes in demand and life cycle period should be analyzed, since an onset of technological obsolescence may have a significant impact on its financial acceptability.

03
23

Q.6 (a) (i)

Current Earning per share = $9.5 \text{ m} / 2.0\text{m shares} = \text{Rs.4.75 per shares}$

Projected Income statement for the year will be

	Financing with	
	Debt	Right issues
PBIT	17.20	17.20
Interest (9.0+6.0)	<u>5.70</u>	<u>4.10</u>
PBT	11.50	13.10
Taxation (30%)	<u>3.45</u>	<u>3.93</u>
PAT	8.05	9.17
Dividend (Rs.3.0 per share)	<u>6.00</u>	<u>7.50</u>
Retained earnings	2.05	1.67
	01	+ 01

02

If the project is financed by 20 million of debt at 8%. Interest charges will rise by Rs.1.6 million.

If the project is financed by 1 for 4 right issues, there will be 2.5 million shares in issue.

STRATEGIC FINANCIAL MANAGEMENT - STAGE –6

Projected balance sheets at the end of the year will be:

Marks

	Financing with	
	Debt	Right issues
Assets less current liabilities (150+new capital25+retained earning)	133.55	133.17
Debt capital	(70.00)	(50.00)
Equity	63.55	83.17
Share capital	20.00	25.00
Reserves	43.55	58.17
	63.55	83.17
	01	+ 01

02

(ii)

Number of shares	2.00	2.50
EPS before tax OR	5.75	5.24
EPS after tax	4.02	3.67

01

Gearing Ratio (Debt capital/ (Debt capital + Equity)	52.41%	37.54%
	(70/133.55)	(50/133.17)

01

The right issue raises Rs.20 million of which Rs.5.0 million is represented in the balance sheet by share capital and the remaining Rs.15.0 million by share premium. The reserves are therefore the current amount plus the share premium plus Retained Earnings.

Conclusion: Both financing methods would be acceptable since the company requirements for no dilution in EPS and gearing ratio not to exceed 55% would be met with a right issue as well as by borrowing.

01

Q.6 (b) (i) Calculation of NPV.

Model	Investment Required	PV of Future cash flows	Net present value
United	65.5	99.5	34.0
United Power	72.0	118.0	46.0
United Super	85.0	123.0	38.0
United & United Power	137.5	217.5	80.0
United & United Super	119.0	222.0	103.0
United Power & United Super	157.0	259.5	102.5
United, United Power & United Super	229.50	359.0	129.5

01

01

01

01

Conclusion: Assembling of Model United, United Power & United Super should be chosen, as they provide the highest NPV of **Rs.129.50m.**

01

STRATEGIC FINANCIAL MANAGEMENT - STAGE –6

Marks

- (ii) The commulative PV of Rs.1m received per annum in perpetuity is $Rs.1/r$. Therefore, at a cost of capital of 20% the PV of the interest on Rs.1m invested in perpetuity at 25% is $1m \times 0.25/0.20 = Rs.1.25m$. Therefore, the NPV per Rs.1.0m invested is $(1.25-1.00) = Rs.0.25m$.

Assembling	Req. investment	Surplus Fund	NPV of investmentx0.25	NPV of assembling	Total NPV	
United & United Power	137.5	22.5	5.6	80.0	85.6	01
United & United Super	119.0	41.0	10.25	103.0	113.25	01
United Power & United Super	157.0	3.0	0.75	102.5	103.25	01

Conclusion: Assembling of Model United & United Super should be chosen, as they provide the highest NPV of **Rs.113.25m**. 01

Concept 01

Presentation 01

 18

THE END