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Question No: 2

ABC Ltd.
Forecast Income Statement
for the year ended 30 June, 2013

		Rs. '000'	
Revenue (Rs. 480 m x 1.25)		600,000	
Cost of sales (70%)		420,000	
Gross profit (30%)		180,000	1
Expenses	109,200		
Depreciation of buildings (5% of Rs. 40 m)	2,000		
Depreciation of plant and machinery (20% of Rs. (50m + 114m)	32,800	144,000	
Profit before taxation		36,000	1
Taxation (35%)		12,600	
Profit after taxation		23,400	1
Dividend (50%)		11,700	
Retained profit		11,700	1

Forecast Statement of Financial Position
as at 30 June 2013

Assets		**Rs. '000'**	**Liabilities and Owners Equity**	**Rs. '000'**	
Current assets:			Current liabilities :		
Receivable (W-1)		150,000	Bank overdraft (W-4)	7,350	
			Trade payable (W-2)	48,000	
Inventory (78 – 36)		42,000	---------->		1
		192,000	Tax payable	12,600	0.5
Non-current assets:			Dividends payable	11,700	0.5
Freehold buildings	48,800			79,650	
Less accumulated dep	10,800		Long term loan (W-3)	93,850	
		38,000	---------->		1
Plant and machinery	189,800		Owners equity:		
Less accumulated dep	58,600	131,200	---------->		1
			Ordinary shares @ Rs.1 per share	40,000	
			Retained earnings (136 + 11.7)	147,700	
		169,200		187,700	1
Total		**361,200**	Total	**361,200**	1
	OR	3	+	3	= 6

Workings:

W-1: Trade Receivables:

Average debt collection period in current year	(40 ÷ 480) x 12 month		1	month
Average debt collection period in next year	3 times one month		3	month
Trade receivables as at 30 June 2013	(3 ÷ 12) x Rs. 600m	Rs.	150	million

W-2: Trade Payables:

		Rs. 'Million'	
Purchase in the year	Closing inventory + cost of sales – opening inventory		
Purchase in the year	Rs. 42m (reduction in inventory levels) + Rs. 420m – Rs. 78m	384	
Trade payables at June 30, 2013	(1.5 ÷ 12) x Rs. 384 million	48	1

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Question No: 2

W-3: Long-term Loan:

	Rs. '000'	
Share capital	40,000	
Retained earnings at 30 June 2012	136,000	
Profit for the forth coming year	11,700	
	187,700	1
Loan at 30.06.2013 (1/2 of Rs. 187,700 million)	93,850	
Original loan	114,000	
Loan repaid in the year	20,150	
	187,700	1

W-4: The bank over draft may be found as balancing figure OR it may be calculated as under:

Cash Account

		Rs. '000'	
Operating profit		36,000	
Add back depreciation (2,000 + 32,800)		34,800	
		70,800	
Reduction in inventory	36,000		
Increase in receivables (150 – 40)	(110,000)		
Increase in trade payables (48 – 24)	24,000		
		(50,000)	
Cash flow from operations		20,800	
Tax paid		(9,000)	
Dividends paid		(15,600)	
Machinery purchase		(114,000)	
Loan raised		114,000	
Loan repaid		(20,150)	
Cash flow in the year		(23,950)	
Cash at start of year		16,600	
Cash at end of year		(7,350)	1

Question No: 3

(a) Cost of Debt:

Year		Cash Flow	Discount Factor @ 8%	PV (Rs.)	Discount Factor @ 10%	PV (Rs.)
0	Market value	(930)	1.000	(930.00)	1.000	(930.0)
1 – 10	Interest	80	6.710	536.80	6.145	491.6
10	Capital repayment	1,000	0.463	463.00	0.386	386.0
				69.80		(52.4)
				1	+	1 = 2

$$IRR = a + \left[\frac{NPV_a}{(NPV_a - NPV_b)} \times (b - a)\right]$$

$$K_d = 8\% + \left[\frac{69.8}{(69.8 + 52.4)} \times (10\% - 8\%)\right]$$

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Question No: 3

$K_d = 8\% + \frac{69.8}{122.2} \times 2\%$ 1

$= \mathbf{9.14\%}$ **pre tax cost** 1

After tax cost of debt $= K_d(1 - T) = 9.14\% (1 - 0.35) = 9.14\% (0.65) = \mathbf{5.94\%}$ 1

OR

$$\text{Pre tax cost of debt} = \frac{80 \times \frac{\text{Rs. } 1{,}000 - \text{Rs. } 930}{10}}{\frac{\text{Rs. } 930 + \text{Rs. } 1{,}000}{2}}$$ 3

$$= \frac{80 \times 7}{965} = \mathbf{9.02\%}$$ 1

After tax cost of debt $= 9.02 (1 - 0.35) = \mathbf{5.90\%}$ 1

(b) Company's Cost of Preference Shares:

Since the preferred issue is perpetual, its cost is estimated as follows:

$$K_{ps} = \frac{D_{ps}}{P_n} = \frac{0.1(\text{Rs. } 100)}{\text{Rs. } 114 - \text{Rs. } 2.90} = \frac{\text{Rs. } 10}{\text{Rs. } 111.10} = 0.090 = \mathbf{9\%}$$ 1

(c) Company's Estimated Cost of Equity Using CAPM Approach:

$K_e = 0.05 + (0.06)1.5 = \mathbf{14\%}$ 2

Cost of Equity Using the Discounted Cash Flow (DCF) Approach

$$K_e = \frac{D_1}{P_0} = \frac{D_0(1+g)}{P_0} + g = \frac{\text{Rs. } 6\ (1.05)}{\text{Rs. } 70} + 0.05 = \mathbf{14\%}$$ 2

Cost of Equity Using the Bond-Yield-Plus-Risk-Premium Method

K_e = company's own bond yield + risk premium.

First find the YTM of the TFC: The annual rate, k = 9.14%.

The assumed risk premium is 4%, thus $K_s = 0.0914 + 0.04 = \mathbf{13.14\%}$ 2

(d) Weighted Average Cost of Capital (WACC):

WACC $= w_d k_d (1 - T) + w_{ps} k_{ps} + w_e(k_e)$ 1

$= 0.3(0.0914)(0.65) + 0.1(0.09) + 0.6(0.14)$ 1

$= 0.018 + 0.009 + 0.084 = \mathbf{11.1\%}$ 1

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Question No: 4

(a) Breakeven EBIT:

Existing debt	Rs. 160 m			
Interest rate on existing debt	9%			
Interest expenses	Rs. 160 m x 0.09	=	**Rs. 14.4 m**	1
No of shares outstanding	12 m			
Old capital structure EBT	$\frac{\text{EBIT} - \text{Rs. 14.4 m}}{\text{12 m shares}}$			1
Additional debt	Rs. 250 – Rs. 160	=	**Rs. 90 m**	
Market price per share	Rs. 75			
No. of shares re-purchase with additional debt	$\frac{\text{Rs. 90 m}}{\text{Rs. 75}}$	=	**1.2 m shares**	1
No. of shares outstanding after re-purchase	12 m – 1.2 m	=	**10.8 m**	1
Interest expenses on additional debt	90 m X 0.12 m	=	**10.8 m**	
Total interest expenses after raising additional interest	Rs. 14.4 m + Rs. 10.8 m	=	**25.2 m**	1
EBT under the new capital structure	$\frac{\text{EBIT} - \text{Rs. 25.2 m}}{\text{10.8 m shares}}$			1
Breakeven EBIT	$\frac{\text{EBIT} - 14.4}{12}$	=	$\frac{\textbf{EBIT} - \textbf{25.2}}{\textbf{10.8}}$	1

10.8 (EBIT – 14.4)	=	12 (EBIT – 25.2)	
10.8 EBIT – 155.52	=	12 EBIT – 302.4	
12 EBIT – 302.4	=	10.8 EBIT – 155.52	1
12 EBIT – 10.8 EBIT	=	302.4 – 155.52	
1.2 EBIT	=	146.88m	
EBIT	=	$\frac{\text{146.88 m}}{\text{1.2m}}$ = **122.4 million**	1

(b) (i) Original Value of the Firm **(D = Rs. 0)**:

$$V = D + \frac{(EBIT - I)(1 - T)}{K_s}$$

$$= 0 + \frac{(Rs.\,2{,}000{,}000 - Rs.\,0)(1 - 0.35)}{0.10}$$

= Rs. 0 + Rs. 13,000,000 **= Rs. 13,000,000** 1

With financial leverage (D = Rs 3,600,000):

$$V = D + \frac{(EBIT - I)(1 - T)}{K_s}$$

I = Interest cost = $k_d D$ = (0.07)(Rs.3,600,000) = Rs. **252,000** 1

$$V = Rs.3{,}600{,}000 + \frac{(Rs.\,2{,}000{,}000 - Rs.\,252{,}000)(1 - 0.35)}{0.11}$$

= Rs.3,600,000 + Rs.10,329,090 = **Rs. 13,929,090** 1

Increase in the firm's value = Rs.13,929,090 – 13,000,000 = **929,090** 1

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Question No: 4

(ii) Equilibrium Market Price of a Share:

Shares are repurchased at the equilibrium market price that prevails after the announcement of the transaction. This is because existing shareholders would only sell at a price that incorporated the increased value of the firm resulting from the repurchase. We know that: 1

$$P_1 = \frac{V_1 - D_0}{n_0}, \text{ thus } P_1 = \frac{Rs.13,929,090}{200,000} = \textbf{Rs. 69.64}$$ 1

Question No: 5

(a) **(i)** Payback Period of the Product:

Payback period = **6 years** 2

– Rs.1,400,000 – Rs.2,000,000 + Rs.500,000 + Rs.600,000 + Rs.700,000 + Rs.800,000 + Rs.800,000 = 0

(ii) Net Present Value (NPV) at 15%:

Year	Cash Flow (Rs.)	Discount Factor (15%)	Present Value (Rs.)	
0	(1,400,000)	1.000	(1,400,000)	1
1	(2,000,000)	0.870	(1,740,000)	1
2	500,000	0.756	378,000	1
3	600,000	0.658	394,800	1
4	700,000	0.572	400,400	1
5 – 10	800,000	2.164	1,731,200	1
		Net Present vale	(235,600)	

As the net present value (NPV) amounting to Rs.235,600 is negative, the project is unacceptable. 1

(iii) Per Share Increase or Decrease:

The wealth of the share holders would be decreased by Rs.0.24 per share:

Rs.235,600/ 1,000,000 shares **= Rs.0.24** 1

(b) Decision to Accept or Reject the Project:

(Rs. "Million")

Year	Cash Flow	Cat "A"		Cat "B"		Cat "C"	
		PV Factor @ 10%	NPV	PV Factor @ 13%	NPV	PV Factor @ 16%	NPV
0	(20)	1.000	(20.000)	1.000	(20.000)	1.000	(20.000)
1	12	0.909	10.908	0.885	10.620	0.862	10.344
2	10	0.826	8.260	0.783	7.830	0.743	7.430
3	4	0.751	3.004	0.693	2.772	0.641	2.564
			2.172		**1.222**		**0.338**
			3	+	3	+	3 = 9

(Rs. "Million")

Category	Opinion of	Weightage	NPV	Rupees	
A	Manager Logistic	0.20	2.172	0.434	1
B	Manager Finance	0.30	1.222	0.367	1
C	Manager Tech	0.50	0.338	0.169	1
		1.00		**0.970**	1

Decision: The project should be accepted as it has Rs.970,000 positive net present value (NPV). 1

Presentation 1

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Question No: 6

(a) Risks of Overseas Investment:

The risk include the following

- Foreign exchange risks:

  Any company that exports or imports faces the risk of **higher costs** or **lower revenues** because of adverse movements in foreign exchange rates.

  A Company that owns assets in different countries (subsidiaries abroad) faces the risk of accounting losses due to adverse movements in exchange rates causing a fail in the value of those assets, as expressed in domestic currency. Such companies may undertake foreign currency hedging activities to protect them from these losses.

- Political risks and country risks:

  Economic or **political measures** could be taken by governments affecting the operations of its subsidiaries abroad.

- Geographical separation:

  The **geographical separation** of the **parent company** from its subsidiaries adds to the problems of management control of the group of companies as a whole.

- Litigation risk:

  The risk of litigation varies in different countries and to minimize this risk, attention should be paid to **legislation** and **regulations** covering the products sold in different countries. Care should be taken to comply with contract terms.

- Risk of loss of goods in transit:

  It may be possible to **insure** against this risk.

Five risks @ 1 mark = 5

(b) **(i)** Net Assets Basis:

	Rs. '000'	
Assets based		
Net assets at book value of Beta Company	14,400	
Add: increased valuation of buildings	3,000	
Less: decreased value of inventory	(200)	
Less: additional allowance for bad debts	(1,500)	
Net asset value of equity	**15,700**	4
Number of shares outstanding (000)	400	
Value per share	**39.25**	1

(ii) Price/Earning Method:

	Rs. '000'		
	Alpha Ltd.	Beta Company	
EBT(million)	6,154	4,300	
Tax @ 35%	2,154	1,505	
EAT	4,000	2,795	1
No. of shares outstanding (000)	1,000	400	
Earning per share	4	7	1
Market price per share	48		
Price earning ratio (P/E ratio)	12		1

Beta Company's value per share Alpha Ltd.'s P/E ratio x 75% x Beta Company's EPS

(12 x 0.0.75) x Rs. 7

9 times x Rs.7 = **Rs.63** 1

Value of Beta Company Rs.63 x 400,000 shares = **Rs.25.2** million 1

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Question No: 6

(iii) Dividend Valuation Model:

The dividend valuation method gives the share price as under:

$$\frac{\text{Current year's dividend}}{\text{Cost of equity - growth rate}}$$ 1

Alpha Ltd., cost of equity:

$$\frac{\text{Current year's dividend}}{\text{Market price}} + \text{growth rate} = \frac{\text{Rs. } 3.6\,(1.075)}{\text{Rs. } 48} + 0.075 \quad \textbf{= 15.6\%}$$ 1

Using, say, 15.6% as a cost of equity

Per share price of Beta Company:

$$\frac{4(1.09)}{0.156 - 0.09} = \frac{\text{Rs. } 4.36}{0.066} \quad \textbf{= Rs.66.1}$$ 1

Value of Beta Company:

400,000 shares x Rs.66.1 **= Rs.26.44 million** 1

Summary of Valuation Range:

The three methods used have thus come up with a range of value of Beta Company as follows:

	Value Per Share (Rupees)	Total Valuation (Rs. "Million")
Net assets	39.25	15.70
P/E ratio	63.00	25.20
Dividend valuation	66.10	26.44

1

THE END