Answer 1

(a)	**Rs. in million**	
Profit after tax	25.00	**0.5 mark**
Investments (W-1)	(22.70)	**0.5 mark**
Dividend	2.30	**0.5 mark**

W-1

Project	**Investment**	**IRR**	**WACC (W-2)**	**Accept?**	
A	10.20	21.50%	14.92%	Yes	**0.5 mark**
B	15.00	10.00%	14.92%	No	**0.5 mark**
C	8.00	19.00%	14.92%	Yes	**0.5 mark**
D	7.50	12.20%	14.92%	No	**0.5 mark**
E	4.50	17.00%	14.92%	Yes	**0.5 mark**

Worthwhile investments = 10.2 + 8 + 4.5

= 22.70 **1 mark**

W-2

WACC = 20.32%[W-3] x 0.6 + (6% + 3.75%) x 70% x 0.4

= 14.92% **2 marks**

W-3

Asset beta = 1.58 x 0.7 / (0.7 + 0.3 x 70%)

= 1.22 **1 mark**

Revised equity beta = 1.22 x (0.6 + 0.4 x 70%) / 0.6

= 1.79 **1 mark**

Ke = 6% + 1.79 x 8%

= **20.32%** **1 mark**

(b)

- **Signaling effect** [when company changes its dividend policy, it generates signals in stock market. For example if a company stops paying dividend, investors might view this as inability to pay dividends. As a result of such signals, investors react and prices change.]
- **Clientele effect** [As a result of company's set dividend pattern, shareholders have adjusted their needs accordingly. For example, shares of a company paying consistent dividends are generally held by those investors who prefer dividends. Any change in dividend policy, those investors tend to sell shares to generate cash and share prices change.]
- **Tax effect** [Different rates of taxation on dividends and capital gains can affect preferences of different shareholders.]

Answer 2

		0	1	2	3	4	Marks allocated
Sales - units			12,000	22,000	47,000	60,000	
Bangladesh cash flows:		---------- all figures in 000 ----------					
Sales			44,019	84,582	189,385	253,391	**2**
Variable cost	9%		(15,600)	(31,174)	(72,593)	(101,012)	**1**
Imported component	4%		(3,144)	(6,283)	(14,631)	(20,359)	**2**
Fixed cost	9%		(25,000)	(27,250)	(29,703)	(32,376)	**1**
Depreciation			(20,000)	(20,000)	(20,000)	(20,000)	**0.5**
		-	(19,725)	(125)	52,458	79,644	
Tax (W-2)			-	-	(6,522)	(15,929)	**3**
Depreciation			20,000	20,000	20,000	20,000	**0.5**
Land and building		(150,000)				450,000	**1**
Machinery		(80,000)				-	**1**
WC Inv. (W-3)		(40,000)	(3,600)	(3,924)	(4,277)	51,801	**1**
		(270,000)	(3,325)	15,951	61,659	585,516	
Exchange rates		50.00	52.40	54.92	57.56	60.33	
Rupee cash flows:							
Project cash flows		(5,400)	(63)	290	1,071	9,705	**2**
Additional tax (W-4)		-	-	-	(57)	(132)	**2**
Contribution lost (W-5)		-	(582)	(485)	(403)	(335)	**2**
Closure in Pakistan		600					**1**
		(4,800)	(646)	(194)	611	9,238	
Discount factor	20%	1.000	0.833	0.694	0.579	0.482	
		(4,800)	(538)	(135)	354	4,455	
NPV	**(664)**						**1**

Conclusion:
Since NPV of the proposal is -ve, therefore AL should not proceed with the proposal.

W-1 exchange rates

		0	1	2	3	4	
Pak inflation	4%						
Bangla inflation	9%						
Exchange rate (BT/Rs.)		50.00	52.40	54.92	57.56	60.33	**1**
			-				

W-2 Tax in Bangladesh

b/f loss	-	(19,725)	(19,850)	-	
PBT	(19,725)	(125)	52,458	79,644	
c/f tax loss	(19,725)	(19,850)	-	-	
Tax profit			32,608	79,644	
Tax	-	-	6,522	15,929	

In absence of information, ignore additional tax on residual value of property in Bangladesh

W-3 WC Inv

	0	1	2	3	4
WC balance	40,000	43,600	47,524	51,801	
Change	40,000	3,600	3,924	4,277	(51,801)

W-4 Additional tax

Tax profit (BT)		-	-	32,608	79,644
Tax profit (Rs.)		-	-	566	1,320
Additional tax	10%	-	-	57	132

W-5 Contribution lost

		0	1	2	3	4
Units			40,000	32,000	25,600	20,480
Contribution		-	832	692	576	479
Tax	30%	-	(250)	(208)	(173)	(144)
			582	485	403	335

ANSWER 3

	Year 1	Year 2
Sales (W - 1)	175,560	172,906
Variable cost [10 x units (w-2)]	(67,000)	(66,457)
Fixed cost	(55,000)	(55,000)
Net profit	**53,560**	**51,449**
	1 mark	**1 mark**

W - 1

----------year 1----------

	Probability	Sales	Units	Expected units	Expected Sales
	[A]	**[B]**	**[C]**	**[C x A]**	**[B x A]**
Poor	35%	80,000	4,000	1,400	28,000
Normal	22%	143,000	6,500	1,430	31,460
Good	43%	270,000	9,000	3,870	116,100
				6,700	**175,560**
				1.5 marks	**1.5 marks**

----------year 2----------

	Joint probab.	Sales	Units	Expected units	Expected Sales
	[A]	**[B]**	**[C]**	**[A x C]**	**[A x B]**
	0.11	80,000	4,000	420	8,400
Poor	0.16	96,000	4,800	756	15,120
	0.09	104,000	5,200	455	9,100
	0.07	110,000	5,000	330	7,260
Normal	0.10	123,200	5,600	554	12,197
	0.06	154,000	7,000	385	8,470
	0.13	234,000	7,800	1,006	30,186
Good	0.19	258,000	8,600	1,664	49,923
	0.11	300,000	10,000	1,075	32,250
				6,646	**172,906**
				3 marks	**3 marks**

ANSWER 4

(a)

Option I

No. or right shares	=	10,000,000	***(Rs. 250 m /25)***	
TERP	**=**	**33.40**		**2.5 marks**
		[(40 x 35 + 10 x 25 + 20)/(40+10)]		

Option II

No. or right shares	=	4,000,000	***(40 x 1 / 10)***	
TERP	**=**	**34.64**		**2.5 marks**
		[(40 x 35 + 4 x 24 + 28)/(40+4)]		

(b)

Total finance required (PKR)	250,000,000	
Right issue (PKR) [4m x 24]	96,000,000	
Loan required (PKR)	154,000,000	
Loan required(USD) [154m / 100]	**1,540,000**	**1 mark**

Payment date	Principal [A]	Balance	Interest [B] [LIBOR + 1.5%]	Total [A + B]	Exchange rate	Total	
	---------- USD '000 ----------				PKR / USD *(W-1)*	PKR'000	
		1,540.00					
31-Dec-15	308.00	1,232.00	84.70	392.70	104.81	41,158	**1 mark**
31-Dec-16	308.00	924.00	73.92	381.92	110.32	42,135	**1 mark**
31-Dec-17	308.00	616.00	62.37	370.37	116.88	43,287	**1 mark**
31-Dec-18	308.00	308.00	46.20	354.20	124.59	44,131	**1 mark**
31-Dec-19	308.00	-	26.18	334.18	133.33	44,555	**1 mark**
						215,266	**0.5 mark**

W-1	**LIBOR**	**KIBOR**	**Exchange rate**	
Spot			100.00	
31-Dec-15	4.00%	9.00%	104.81	**0.5 mark**
31-Dec-16	4.50%	10.00%	110.32	**0.5 mark**
31-Dec-17	5.25%	11.50%	116.88	**0.5 mark**
31-Dec-18	6.00%	13.00%	124.59	**0.5 mark**
31-Dec-19	7.00%	14.50%	133.33	**0.5 mark**

ANSWER 5

Calculation of total return

Company name	Current price	Forecast price (cum)	Total return
	[A]	[B]	B / A - 1
A	40.00	48.00	20.00%
B	39.00	48.00	23.08%
C	52.00	63.00	21.15%
D	35.00	41.00	17.14%
E	70.00	92.00	31.43%
F	49.00	60.00	22.45%
			0.5 each

Rm

Rm = 0.30 x 12% + 0.45 x 17% + 0.25 x 11% = **14%** **1 mark**

MRP

= Rm - Rf = **9%**

Calculation of asset beta

Company name	Total return	Alpha value	CAPM return	Equity beta	Asset beta
	[A]	[B]	[C = A - B]	[C - Rf] / MRP	(ungearing)
A	20.00%	3.00%	17.00%	1.33	0.78
B	23.08%	1.30%	21.78%	1.86	1.27
C	21.15%	2.70%	18.45%	1.49	0.73
D	17.14%	1.80%	15.34%	1.15	0.93
E	31.43%	4.90%	26.53%	2.39	2.22
F	22.45%	1.70%	20.75%	1.75	1.27
			0.5 each	0.5 each	0.5 each

Calculation of portfolio asset beta

Company name	Weight [W-1]	Asset beta	Portfolio beta
	[A]	[B]	A x B
A	6.07%	0.78	0.05
B	11.05%	1.27	0.14
C	36.83%	0.73	0.27
D	17.71%	0.93	0.17
E	8.50%	2.22	0.19
F	19.83%	1.27	0.25
	Portfolio asset beta		**1.06**

1 mark

W-1	Shares	Price	Value	Weight
A	1,500	40.00	60,000	6.07%
B	2,800	39.00	109,200	11.05%
C	7,000	52.00	364,000	36.83%
D	5,000	35.00	175,000	17.71%
E	1,200	70.00	84,000	8.50%
F	4,000	49.00	196,000	19.83%
Total			**988,200**	**100.00%**

ANSWER 6

	1	2	3	4	5	Marks
	---------- Rs. '000 ----------					
Sales [0%, 150%, 10%, 10%]	50,000	50,000	125,000	137,500	151,250	**3**
Material and labor [40%]	(20,000)	(20,000)	(50,000)	(55,000)	(60,500)	**1**
FOH (including dep.) [5%, 70%, 8%, 8%]	(12,000)	(12,600)	(21,420)	(23,134)	(24,984)	**1**
	18,000	17,400	53,580	59,366	65,766	
Tax 25%	(4,500)	(4,350)	(13,395)	(14,842)	(16,441)	**1**
New depreciation*	-	-	7,000	7,000	7,000	**1**
Capex	-	-	(210,000)			**1**
Working capital	(2,000)	-	(7,500)	(1,250)	(1,375)	**2**
FCFF	29,500	30,450	(116,735)	109,641	120,715	
Terminal value (W-1)	-	-	-	-	1,267,507	**1**
	29,500	30,450	(116,735)	109,641	1,388,222	
Discount 15.00% (W-2)	0.870	0.756	0.658	0.572	0.497	
	29,500	30,450	(116,735)	109,641	1,388,222	
Combined value	**1,441,079**					**1**

* Existing depreciation is not added back as it is equal to capital expenditure to maintain existing level. **0.5**

Maximum premium:

Combined value	1,441,079	**0.5**
Existing value of APL (W-2)	(960,000)	**0.5**
Existing value of GML (W-2)	(360,000)	**0.5**
	121,079	**1**

W-1

Terminal value = 120,715 (1 + 5%) / (15% - 5%)

= 1,267,507 **2**

W-2

Rm = (16100 - 14000) / 14000

= **15%** **1**

Existing asset betas:

APL = (0.1815 - 0.06) / 0.09 = 1.35 **1**

GML = (0.2175 - 0.06) / 0.09 = 1.75 **1**

Combined beta:	**Value (Rs. m)**	**Beta**	
APL (30 x 32)	960	1.35	
GML (20 x 18)	360	1.75	
	1,320		
Combined beta	1.46		**1**

Combined Ke = 6% + 1.46 x (15% - 6%)

= 19.13% **1**

Combined WACC = 19.13% x 70% + 7% x 75% x 30%

= 14.97% OR **15.00%** **1**