

December 12, 2002

**STRATEGIC FINANCIAL MANAGEMENT**  
**PE-2 Paper 2**

**(MARKS 100)**  
**(3 hours)**

Q.1 Following are the details of non-performing advances of a bank:

Company	Facility	Outstanding Principal	Outstanding interest	Overdue since
		(Rupees in million)		
A Ltd	Short-term loan	20	2	300 days
B Ltd	Long-term loan	25	1	one year
C Enterprises	Long-term loan	12	0.5	2 ½ years
D & Co	Long-term lease	10	0.5	365 days

The facilities of A Ltd and B Ltd were restructured a year ago when both the facilities were 2 years overdue. D & Co has not paid lease rentals of Rs 1 million since last one year. Bank holds following securities against each facility:

Company	Nature of Security	Market value	Forced sale value
		(Rupees in million)	
A Ltd	Shares of listed co's	2	2
	Mortgaged property	20	14
B Ltd	Hypothecation of stocks	25	20
C Enterprises	Mortgaged property	12	9
D & Co	Leased assets	12	8

Assume that all interest amounts are already held in suspense.

**Required:**

You are required to calculate the provision required under the Prudential Regulations. (10)

Q 2 You are the financial controller of a foreign bank. You have just received the latest limits for open positions and maturity mismatches by currency from the head office. The country head of the bank has asked you to report on the bank's compliance with the authorised limits. Authority limits for maturity mismatches and open positions are as follows:

	(Millions in currency units)		
	Rupee	UK£	US\$
Spot and 1 month	240	2.50	4.00
2-3 months	160	1.50	2.50
4-6 months	80	1.00	1.50
7-12 months	40	0.50	1.00
over 12 months	20	0.25	0.50

Outstanding loans, deposits and foreign exchange transactions by currency are as follows:

Balance Sheet

		(Millions in currency units)		
		<u>Rupee</u>	<u>UK£</u>	<u>US\$</u>
Loans maturing in	1 month	290	10	48
	2-3 months	330	12	97
	4-6 months	241	40	53
	7-12 months	178	22	57
	over 12 months	<u>115</u>	<u>-</u>	<u>-</u>
		<u>1,154</u>	<u>84</u>	<u>255</u>
Deposits maturing in	1 month	161	5	46
	2-3 months	126	38	75
	4-6 months	345	32	70
	7-12 months	263	20	54
	over 12 months	<u>248</u>	<u>-</u>	<u>-</u>
		<u>1,143</u>	<u>95</u>	<u>245</u>
Capital		100	-	-
<u>Foreign exchange</u>				
Purchases maturing	spot	100	20	51
	1 month	223	-	8
	2-3 months	133	12	12
	4-6 months	143	15	60
	7-12 months	67	-	4
over 12 months	<u>92</u>	<u>-</u>	<u>-</u>	
		<u>758</u>	<u>47</u>	<u>135</u>
Sales maturing	spot	286	5	52
	1 month	225	7	10
	2-3 months	141	10	16
	4-6 months	149	10	54
	7-12 months	27	5	7
over 12 months	<u>12</u>	<u>-</u>	<u>1</u>	
		<u>840</u>	<u>37</u>	<u>140</u>

**Required:**

Given the outstanding loans, deposits and foreign exchange spot and forward transactions, prepare a maturity ladder using the following table. Compare your maturity ladder with the authorized limits and report your findings.

Currency positions					
	On balance sheet	Off balance sheet	Net	Limit	Excess over limit
Capital					
Spot and 1 month					
2-3 months					
4-6 months					
7-12 months					
Over 12 months					
Net open position					

Q.3 M/s A & Company are planning to acquire B & Company. The relevant data for both companies is as under:

	<u>A</u>	<u>B</u>
Profit after tax (Rs. in million)	100	40
No. of shares (in million)	20	15
P.E. ratio	15	10

A & Company desire to carry out the acquisition by issue of shares to the shareholders of B & Company.

**Required:**

- (a) Maximum exchange ratio the company can offer without diluting on the basis of:
- (i) Earning per share and
  - (ii) Market value per share
- (b) The minimum number of shares that the shareholders of B & Company may be willing to accept.

(Assume P/E ratio after merger will be 14.)

(15)

Q 4 To meet the current shortfall in the demand and supply of power in the city, your city government is considering foreign investment to set up 200 Megawatt power generation unit. There are three foreign power companies which are interested in the project. The project shall be awarded to the company with good track record of power generation having sufficient resources to set up and run the project for 10 years. The project shall run on fuel-based diesel engines using heavy furnace oil to be imported from Middle East.

The project needs capital investment of US\$ 200 million which shall be arranged by the company running the project. The debt equity ratio allowed for this project is 80:20. The company shall be entitled to repatriate dividends and equity, however, the equity shall only be repatriable at the end of 10<sup>th</sup> year. The income of the project shall be exempt from all taxes. The government intends to fix a price of electricity to be purchased from the company for 10 years which shall yield a return on equity of 10% (in US\$ terms). At the end of 10<sup>th</sup> year the government shall take over the project upon payment of equity amount to the foreign owners.

Based on the forecast, the government shall be able to buy 80% of the yearly electrical output of the project. The output to be bought is estimated to be 1,401,600 Megawatt Hours (MwH) per annum. Therefore the government shall guarantee the purchase of 1,401,600 MwH per annum.

The price to be paid per Megawatt Hour of electrical output purchased from the company shall be split into three components, which are as follows:

- Base Rate
- Fuel Rate
- O&M Rate

Base Rate shall repay the capital investment plus returns thereon whereas the Fuel and O&M Rates shall pay the cost of fuel and running costs of the project respectively. All of these rates shall be denominated in US\$.

Based on the risk profile of the project, it is estimated that the company shall be able to raise foreign debt @ LIBOR plus 2 % p.a. The principal should be repayable in 10 equal

(4)

Current prevailing rate of LIBOR is 3% p.a. which is expected to grow in the future. To protect the company from any adverse movement in LIBOR, the company could hedge its interest rate risk at a cost of 2% p.a.

Fuel Rate is based on the cost of furnace oil which has 90% positive correlation with oil prices. The cost of furnace oil is currently US\$160 per ton. If the plant is kept in good condition, one ton of furnace oil produces 5 Mwh electrical output. Fuel Rate shall be determined every year with reference to the average price of Gulf Crude Oil quoted in Dubai during the year compared with the price of Gulf Crude Oil on Jan 1 of year 1.

The estimates for the running cost of the project for the first year are as follows:

	<b>Rupee based</b>	<b>US\$ based</b>
Salaries and allowances	5,000,000	500,000
Spares and stores	2,000,000	800,000
Lubricants costs	200,000	50,000
Plant upkeep	2,400,000	-
Office running expenses	2,400,000	-
Others	2,300,000	-

The above cost structure shall remain valid during the period of 10 years. Yearly O&M Rate shall be indexed in line with the movement in average yearly Pakistan CPI Index and average yearly US CPI Index with reference to these indices on Jan 1 of year 1.

Current exchange rate of US\$ / Rupee is 60.

### **Required:**

The government has hired you as a consultant for this project. Using the above information and cash flows, you are required to work out the following:

- WACC of the project **(03)**
- Base rate/Mwh using the 10 year cash flows relating to capital investment (in US\$) **(08)**
- Cost of furnace oil/Mwh (in US\$) **(03)**
- Fuel rate/Mwh formula considering the future variations in Gulf Crude oil prices through indexation **(02)**
- Project Running Cost/Mwh (in US\$) **(02)**
- O&M rate/Mwh formula considering the weighted average future variations in respective CPI indices and foreign exchange parity between Rupee and US\$ through indexation **(02)**

(Ignore the effect of depreciation in your workings)

Q.5 A company is planning to raise finance amounting to Rs.4.75 million by issuing 250,000 ordinary shares having face value of Rs.10 each and 7 year 12.5% TFC of Rs.2.5 million (face value Rs.100), with floatation costs estimated 5% of the face value. The company expects to pay a dividend of Rs.1.50 per share with a growth of approximately 4% per annum. Tax rate applicable to the company is 40%. Compute the weighted average cost of capital adjusted for floatation costs. **(10)**

Q 6 Atlantis Inc, a leading aircraft builder received an order from an European airline company Horizon Airways for supply of six state of the art 300 seater passenger planes for its premium routes. These planes were to be made as per order and were significantly different from the normal assembly line products and were priced at US\$ 20 million each.

Atlantis usually orders the major airplane components from fixed suppliers and details are as follows:

The engines are available at US\$ 6 million each, the body and structure is manufactured by Atlantis itself, however, the luxury seats are ordered from Alpha Inc at US\$ 10,000 each, a 15% discount is available if the order quantity is over 150.

The cockpit equipments including communication devices and gears are ordered from Taurus Corporation on regular credit terms of 6 months with a total value of US\$ 30 million. No interest is payable if payment is made within the credit period.

The security equipment and interior furnishing are purchased from local suppliers, which cost around US\$ one million per plane. The assembling and the body manufacturing would also cost US\$ one million per plane.

The company's required minimum rate of return is 15% for normal assembly line products, for such one off special orders the company charges minimum 2% additional premium above the minimum required rate of return.

The salient features of the contract with Horizon Airways were as follows:

- Down payment of 5% of the contract value (upfront).
- Remaining amount in three equal quarterly installments starting from the end of second quarter from the date of contract, the last installment matches with the delivery of all six planes.
- The contract contains a performance penalty clause, which states that: in case if Atlantis Inc fails to deliver the planes at the agreed date and the delay is upto ninety days, Atlantis will pay interest @ 8% p.a, being the rate applicable to A rated companies, on all the payments received from Horizon Airways, and if the delivery period goes beyond ninety days from the agreed date, a fine of US\$ one million per month will be payable for each month after the expiry of ninety days.
- If due to any reason other than quality and technical, Horizon Airways declines to accept the delivery or at any time after the signing of the contract decides to abandon the agreement, it will be liable to pay US\$ 5 million in addition to the forfeiture of down payment amount.

The chances of Atlantis failing to meet the deadline are 5% and the probability that the order cannot be fulfilled within ninety days after the expiry of deadline is 0.5%. However, to avoid any contingency Atlantis has taken a specific liability insurance to cover the penalty payments, at a premium of 0.3 % of contract value.

Horizon Airways, after four months of signing of contract foresees major changes in their original feasibility study due to declining tourist activity, and their financial advisors suggest them to pay the penalty and exit from the contract as the foreseeable losses due to drop in tourism are significantly higher than the amount of penalties under the contract.

Although Atlantis Inc received the penalty amount; the exit of Horizon comes as a major blow as all the components were already delivered and the job had progressed significantly.

To avoid losses on unfinished planes, Atlantis should find a new buyer; otherwise modifications to make these planes as per normal assembly line aircrafts would cost additional US\$ 5 million per plane. After the modifications, the planes could be sold at

(6)

In the circumstances, Desperate Airlines Limited, a medium sized airline with ageing fleet has been approached for the sale of planes. Desperate Airlines is interested in buying the planes on 'as is where is basis' but cannot afford to buy on cash basis nor on the same terms as of Horizon Airways.

To make things happen the Finance division of Atlantis Inc has worked out following two options for Desperate Airlines:

### Option 1

The planes will be handed over to Desperate Airlines under a contract with the following terms:

- Desperate will use these planes on heavy traffic and profitable routes.
- The cash flows generated by these planes will be shared in the ratio of 60:40, 60% being Atlantis share for the next five years (at the end of each year).
- Atlantis will remain the owner of the planes till the final payment is made by Desperate Airlines.
- Desperate will keep the planes in good running condition throughout the life of the contract.

The cash flow forecast for the five years developed by Desperate Airlines with the help of an industry specialist is as follows:

Year	US\$ in million
1	35
2	40
3	50
4	55
5	55

If the cash flow forecast is not met by Desperate, Atlantis will have an option to pull back from the arrangement with no penalties on any party.

### Option 2

Desperate Airlines will pay the price of the planes of US\$ 18 million each. In return, Atlantis shall transfer all the risks and rewards in 6 planes to Desperate Airlines. The price of the planes shall be arranged through a specially structured bank loan, which will be for a period of 5 years. The credit rating of Desperate Airlines is B and the normal lending rate for such companies is 10% p.a. The loan shall be repaid through equal yearly installments of US\$ 28.5 million payable at year-end. This installment will include principal plus interest.

To overcome this problem Atlantis Inc will arrange a financial guarantee for Desperate Airlines at a fee of 0.4% p.a, so that Desperate will be able to obtain the loan @ 10% p.a, further it agrees to subsidize the interest cost to Desperate Airline by 2% p.a..

### Required:

- (a) What would be the amount of gain/loss to Atlantis if the planes are modified and sold (07)
- (b) Evaluate Option 1 and Option 2 available to Atlantis Inc by selling the aircrafts to Desperate Airlines Limited. (18)
- (Assume all the cash flows will occur at the end of the year)