The Institute of Chartered Accountants of Pakistan

Business Finance Decisions

Final Examination | 3 June 2014
Summer 2014 | 100 marks - 3 hours
Module F | Additional reading time - 15 minutes

Q.1 Modern Garments Limited (MGL) operates in Country A whose functional currency is CA$. MGL is evaluating a proposal to acquire the entire shareholding (consisting of 100 million shares) of Elegant Textile Mills Limited (ETML) in Country B in view of the upsurge in demand for its products in Country B. The functional currency of Country B is CB₩.

Following information is available relating to the proposed acquisition:

(i) ETML has a rated capacity to manufacture 8 million garment pieces per annum. However, MGL would need to spend CB₩ 2 million on the balancing and modernisation of plant. Subsequent to the modernisation, the plant would have a remaining useful life of 5 years.

(ii) Projections for the first year of ETML's operations after MGL's takeover are as follows:

	CB₩ in million
Sales (CB₩ 100 per piece)	500
Less: Variable costs (CB₩ 25 per piece)	(125)
Less: Fixed costs (include depreciation of CB₩ 18 million)	(30)
Profit before tax	345
Less: Taxes @ 20%	(69)
Profit after tax	276

(iii) Contribution margins are expected to increase by 10% per annum, whereas fixed costs other than depreciation would increase by 5% per annum.

(iv) ETML would be allowed to repatriate only 60% of profit after tax every year. At the end of year 5, ETML would be allowed to repatriate the entire amount of profit after tax including the amount of profit withheld during the past four years. The withholding tax on repatriation is 10%.

It is planned to invest the excess funds in a deposit account at 6% per annum. The interest would be paid annually after deduction of 10% income tax which would be treated as final tax.

(v) Tax rate applicable to MGL is 40%. Since there is no double taxation treaty between Country A and Country B, the amount received from ETML would be subject to the applicable tax rate. However, MGL would be allowed a tax credit by applying ETML's average rate of tax on the amount repatriated plus tax deducted at the time of repatriation.

(vi) The current exchange rate is CA$ 5 per CB₩ and the CA$ is expected to depreciate by 3% per annum.

(vii) Additional working capital requirements are estimated at CB₩ 10 million.

(viii) In Country B, accounting depreciation is allowed for tax purposes also.

(ix) MGL has a five year time horizon for investment appraisal and required rate of return from the project is 25%.

Required:
Suggest the maximum price that MGL may offer for the acquisition of entire shareholdings of ETML. **(18)**

Q.2 Innovative Builders & Developers (IBD) is planning to launch its new residential project which would offer three different categories of apartments to the prospective customers. The project is estimated to be completed in four years. Details of the project are as follows:

(i) Plot of land measuring 5000 square yards has been purchased at the rate of Rs. 50,000 per square yard.
(ii) Documentation fees for transfer of the plot, land levelling costs and architect's fees are estimated at Rs. 20 million, Rs. 40 million and Rs. 15 million respectively.
(iii) Details of different categories of apartments are as follows:

Apartment Categories	No. of rooms	Covered area (sq. feet)	No. of apartments
A	6	1,800	20
B	5	1,250	32
C	4	900	50

(iv) The common amenities for the above three categories would be equivalent to 20%, 18% and 16% respectively, of the covered area of the apartments.
(v) The aggregate cost of the project would be apportioned on the basis of covered area of each category of the apartments including the common amenities.
(vi) Down payment on booking of the apartment would be 10% of the price. The balance would be payable in 16 equal quarterly instalments.
(vii) The estimated construction cost at the prevailing prices is Rs. 3,000 per square feet of the aggregate covered area which is envisaged to increase by 15% per annum.
(viii) The construction work is expected to be completed as per the following schedule:

Year 1	20%
Year 2	30%
Year 3	35%
Year 4	15%

(ix) IBD's target IRR for such projects is 18%.
(x) It may be assumed that all payments against construction works would be made at the beginning of the year.

Required:
Suggest the target price for each apartment in categories A, B and C which IBD should recover to earn the target IRR on its investment in the project. **(17)**

Q.3 Grand Power Limited (GPL), an independent power project, is planning to expand its installed capacity by establishing a 250 megawatt coal-based power plant. The project is expected to become operational in three years. The plant would be set up by a foreign company at a cost of Rs. 12 billion which would be payable in 3 equal instalments at the end of each year.

GPL is considering the following two alternatives to meet the financing needs of the expansion project:

Alternative I : Withholding dividends for 3 years;

Alternative II : Borrowings from market to the extent of debt equity ratio of 60:40.

Following information has been obtained from the latest audited financial statements:

Shareholders' equity	Rs. 20 billion
Borrowings	Rs. 22 billion
Profit before interest and tax (PBIT)	Rs. 6 billion
Depreciation	Rs. 1 billion
Dividend payout ratio	80% of profit after tax
Effective tax rate	25%

GPL anticipates PBIT of Rs. 6 million per megawatt per annum from this project whereas PBIT from existing operations would increase by 10% per annum. It is also anticipated that the amount of borrowing for the existing business operations will continue to remain the same.

Cost of borrowings would depend on the debt equity ratio, as follows:

Debt /equity	Cost of borrowing
Less than 50:50	9%
More than 50:50	10%

The current price of the GPL's stock is Rs. 30 per share. The directors envisage that if Alternative I is adopted, the price earnings ratio of GPL's shares would decline to 8 times.

Required:
Analyze the two alternatives and give appropriate recommendation to the management. **(17)**

Q.4 Pioneer Steel Mills Limited (PSML), a listed company, owns and operates a steel re-rolling plant located in an industrial zone. The plant is situated at a distance of 75 kilometres from the main city and remains operational on 24 × 7 basis during the entire year.

PSML has made arrangements with a transport service provider for pick and drop of its staff. The daily rentals agreed with the transport provider are as follows:

Vehicle category	No. of vehicles	Rental per vehicle per day (inclusive of fuel cost)
24-Seat Coasters	10	**Rs.** 8,200
Cars	8	**Rs.** 3,000

The transport service provider has recently demanded that PSML should increase the rentals by 15% because of increase in fuel prices and other operating costs.

The CEO of PSML has directed Manager Administration to explore other options available to the company. PSML has received a proposal from another transport service provider in which the same number of vehicles would be provided. However, the fuel costs under this proposal would be borne by PSML. The details of monthly rentals per vehicle are as follows:

24-Seat Coasters	**Rs.** 160,000 per month
Cars	**Rs.** 70,000 per month

Following information is also available:

(i) Both the transport service providers offer credit period of 60 days. Credit period allowed by the fuel supplier would be 15 days.

(ii) The Manager Administration has determined that the fuel efficiency and average running based on last six months data are as follows:

Vehicle category	Fuel efficiency	Average running per day per vehicle
24-Seat Coasters	7 km per litre	250 km
Cars	12 km per litre	130 km

(iii) Fuel rate per litre is Rs. 108, including 17% general sales tax. PSML is allowed to adjust the sales tax paid on fuel against the output tax of the company.

(iv) PSML purchases fuel through Fuel Cards which entail a service fee of 2%.

(v) PSML obtains financing facilities @ 9% per annum.

(vi) The vehicle rentals under the existing as well as proposed arrangement would be valid for one year.

Required:

(a) Make a comparative analysis of existing and proposed options for each vehicle category and give appropriate recommendations. ***(Assume a 30 day month)*** **(14)**

(b) Calculate and comment upon the sensitivity of the feasibility of the recommended model to a change in each of the following:
- Average running per day
- Fuel efficiency
- Fuel price **(09)**

Q.5 Salient Engineering Limited (SEL) is a leading supplier of auto parts in the country. Its financial year ends on 31 May. Extracts from financial statements for the year ended 31 May 2014 are as follows:

Statement of financial position

	Rs. in million
Ordinary share capital (Rs. 10 each)	2,400
Retained earnings	952
8% Term Finance Certificates (TFCs) (Rs. 100 each) *(redeemable at Rs. 101 in May 2018)*	960
11% non-redeemable debentures (Rs. 100 each)	640

Income statement

	Rs. in million
Profit before interest and tax	757
Less: Interest on TFCs and debentures	(125)
Profit before tax	632
Less: Tax @ 30%	(190)
Profit after tax	442
Less: Dividends	(114)
Transfer to retained earnings	328

The market prices of SEL's shares and debt instruments on 31 May 2014 were as follows :

Ordinary shares	**Rs.** 18.4 each, cum-dividend
TFCs	**Rs.** 97.5 each, ex-interest
Non-redeemable debentures	**Rs.** 99.0 each, cum-interest

The dividend paid for the year ended 31 May 2013 was 4.4%. It is anticipated that dividend rate would continue to increase in the foreseeable future at the same rate, year on year.

Required:

(a) Calculate SEL's weighted average cost of capital on 31 May 2014. **(09)**

(b) The Board of Directors of SEL are considering an investment of Rs. 450 million in new production facilities which would increase the profit before interest and tax by 15%. Following financing options are available:

Option I : 1 for 8 right issue at a premium of Rs. 5 per share.
Option II : Issue of 11% non-redeemable debentures at a discount of 2 percent.

Required:
Evaluate the investment and discuss the implications on SEL of selecting the equity vis-à-vis the debt option of financing. **(11)**

(c) Explain how quickly the markets would adjust the effect of the above investment on SEL's share price under each of three types of market hypothesis. **(05)**

(THE END)

Business Finance Decisions

Final Examination	4 December 2013
Winter 2013	100 marks - 3 hours
Module F	Additional reading time - 15 minutes

Q.1 Premier Airline Company Limited (PACL) has incurred losses during the past several years. Recently, a new management team has taken over the operations of PACL. The new management has observed that there is substantial over-staffing in the non-core functions. The excess staff is also being paid overtime under the union's pressure. The preliminary findings have revealed the following information about employees engaged in non-core functions:

Non-core functions	No. of staff	Average annual staff cost per head (including 25% overtime allowance) *1	Departmental overheads (variable)
		(Rs.)	(Rs.)
Flight kitchen staff	100	390,000	30,356,097
Janitorial staff	120	240,000	-
Van drivers	80	360,000	12,000,000
Other support staff	150*2	270,000	-

*1 *basic salary constitutes 75% of gross salary excluding overtime*
*2 *number of other support staff is 3 times of the actual requirements*

In order to resolve the problem, a committee consisting of HR and finance professionals has proposed the following scheme of restructuring :

- Flight kitchen may be outsourced to a leading hotel chain which would provide in-flight meals at an average cost of Rs 350 per meal. About 150,000 meal servings are required annually.
- The required support staff may be provided by an independent human resource management company at a rate equivalent to existing gross salaries plus 15%.
- Janitorial services may be outsourced to a firm at an annual contract price of Rs. 12,000,000.
- A transport service provider may be engaged to provide the required number of vehicles with drivers at monthly rental of Rs. 45,000 per vehicle. The present fleet which comprises of 40 vehicles, would be disposed of.
- Golden Handshake Plan (GHP) in the form of 36 basic salaries would be offered to the redundant staff.

The committee has indicated that the labour union may agitate strongly against the restructuring proposal which may create difficulties in the implementation of the scheme. Therefore, only 20% of the staff is expected to avail the GHP facility when the scheme becomes effective. The remaining 80% staff is expected to opt for GHP at the end of first year (40% probability) or at the end of 2nd year (60% probability). On the commencement of the scheme, such staff would be transferred to a surplus pool.

Company's cost of capital is 15%.

Required:
Evaluate the financial feasibility of the above restructuring scheme in terms of net present value. **(23)**

Q.2 After the increase in tax rates for salaried individuals in the Finance Act, 2013, the executives of Supreme Group of Companies (SGC) has requested the management to provide them with company maintained cars in lieu of car allowances to reduce the tax burden.

The relevant information regarding the staff in management cadre is as follows:

Management cadre	Head count	Car allowance (Rs.)
Senior Manager	80	40,000
DGM	16	65,000
GM	8	90,000

A survey of similar companies has revealed that on average, their car policies involve the following:

Management cadre	Car entitlement	Maximum value of car (Rs.)	Monthly estimated fuel reimbursement (Rs.)	Monthly maintenance allowance (Rs.)
Senior Manager	1000cc	1,000,000	15,000	5000
DGM	1300cc	1,500,000	20,000	7000
GM	1800cc	2,000,000	25,000	10000

The finance department has informed that the cars can be obtained from a leasing company under the following terms and conditions:

IRR	12%
Lease period	5 years, rent payable on monthly basis
Insurance	3% annually on cost of vehicle payable in equal monthly installments
Down payment	10% of cost
Residual value	20% of cost at which employee would be able to purchase the car at the end of the lease period

SGC can obtain financing from the bank at the rate of 13% per annum.

Required:
Advise whether it would be worthwhile for the company to adopt the proposed vehicle policy. Substantiate your answer with all necessary calculations. **(15)**

Q.3 Finest Holding Company Limited (FHCL) carries out a number of inter-group transactions with its three foreign subsidiaries FAL, FBL and FCL which are located in Saudi Arabia, UAE and UK respectively. Details of receipts and payments which are due after approximately three months are as follows.

Paying Company	Receiving Company			
	FHCL (Pak)	FAL (SA)	FBL (UAE)	FCL (UK)
	-----------------------in million-----------------------			
FHCL (Pak)	-	SAR 4.21	AED 3.15	UK£ 0.98
FAL (SA)	Rs. 225.30	-	US$ 2.86	UK£ 1.64
FBL (UAE)	Rs. 105.80	US$ 1.85	-	-
FCL (UK)	UK£ 1.32	UK£ 2.10	-	-

The current spot exchange rates for each unit of foreign currency in equivalent Rupees are as follows:

Currency	Buy	Sell
US$	107.00	107.20
UK£	171.09	171.41
SAR	28.53	28.58
AED	29.13	29.19

Required:
Demonstrate how multilateral netting might be of benefit to FHCL. **(07)**

Q.4 The board of directors of Prime Automobile Limited (PAL) intends to raise Rs. 1,500 million for the company's expansion project which is expected to generate profit before interest and tax amounting to Rs. 325 million. Following options are under consideration of the Board:

Option I – 100% debt financing
Option II – debt and equity financing in the proportion of 50:50

Financial information from PAL's latest audited financial statements is presented below in a summarised form:

Summarized Statement of Financial Position

	Rs. in million
Non-current assets	2,358
Current assets	353
Total assets	**2,711**
Share capital (Rs. 10 each)	750
Reserves	913
14% term finance certificates (Rs. 100 each)	526
Current liabilities	522
Capital and liabilities	**2,711**

Summarized income statement

	Rs. in million
Sales	1,544
Cost of goods sold	(949)
Gross profit	595
Admin. & selling expense	(63)
Operating profit	532
Interest expense	(80)
Profit before tax	452
Tax	(155)
Profit after tax	297

Profit on TFCs are payable on half yearly basis. TFCs are currently being traded at Rs. 98 each and are to be redeemed at the end of 3rd year.

PAL has proposed a cash dividend of 30% and issuance of 10% bonus shares to its shareholders. PAL's shares are currently being traded at Rs. 30 (cum dividend).

The average ungeared beta of companies associated with similar business is 1.20. KSE 100 Index can be considered as a representative of market return which has moved from 15530 to 18325 points during the last year. 1-year treasury bills are currently being offered at 11% per annum.

Tax rate applicable to the company is 30%.

Required:

(a) Determine whether PAL has the borrowing capacity to raise the entire investment through debt sources as per the Prudential Regulations which requires a minimum debt equity ratio of 60:40. **(03)**

(b) Compute the existing weighted average cost of capital of PAL. **(05)**

(c) Compute the revised weighted average cost of capital of PAL under each of the two financing options, assuming that the effective cost of existing and new debt would increase as follows:
- Option I – by 200 basis points **(05)**
- Option II – by 100 basis points **(05)**

(d) Advise which of the above options would maximize the shareholders' value. **(04)**

Q.5 (a) Differentiate between conservative and aggressive strategies for financing the working capital requirements. What actions should a company take if it decides to follow aggressive working capital strategy? **(07)**

(b) Top Generators Pakistan Limited (TGPL) is a medium size company which imports and sells a leading brand of generators. Presently, TGPL's board of directors is considering to acquire a plant from China to manufacture a different brand of generators. The acquisition, installation and commissioning of the plant would result in estimated cash outflows of Rs. 600 million. The plant is expected to become operational in 6- 8 months.

TGPL's bankers have agreed to provide long-term financing for the acquisition of plant, to the extent of Rs. 300 million. The balance amount is proposed to be raised by revising its working capital strategy.

TGPL presently follows a conservative policy in the management of its working capital. Projected assets and liabilities at the end of the current year are as follows:

	Rs in 000
Property, plant and equipment	187,500
Trade debtors	375,000
Stock in trade	300,000
Cash and bank	75,000
Trade creditors	(210,000)
Short-term borrowings	(127,500)

The effect of adopting the proposed working capital strategy, would be as follows:

Decrease in trade debtors	20%
Decrease in stock in trade	30%
Decrease in cash and bank	75%
Increase in trade creditors	40%
Increase in short-term borrowings	30%

The short-term borrowings limit available to the company is Rs. 200 million. The bankers have informed that they would consider increasing this facility after the new plant would commence operations.

Required
Being the CFO of the company, prepare a report for the board of directors analyzing and discussing the proposed financing strategy and its consequences on the business prospects of the company. **(12)**
Marks for analytical clarity and logical presentation of the report **(02)**

Q.6 Paramount Industries Limited (PIL) has identified three projects for investment purposes. Due to shortage of funds, PIL can opt for only one of the identified projects. Details of returns and standard deviation of returns from existing operations and proposed investments are as follows:

Description	**Average annual returns**	**Standard deviation of returns**	**Co-relation of returns with existing operations**	**Ratio of existing operations with proposed investment**
Existing operations	17%	25%	-	-
Project A	11%	17%	0.20	85:15
Project B	20%	30%	0.10	80:20
Project C	14%	28%	0.30	90:10

Market returns are 12% with a standard deviation of 19%.

Required:
Determine the most beneficial project for investment. **(12)**

(THE END)

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Business Finance Decisions

Final Examination	5 June 2013
Summer 2013	100 marks - 3 hours
Module F	Additional reading time - 15 minutes

Q.1 Haala Car Rental Service (HCRS) owns and operates a large fleet of vehicles. It is considering whether to dispose of the five cars which were purchased two years ago or to retain them for a further period of two years as these cars are not popular among the customers.

Following further information is available:

(i) HCRS had acquired these cars under lease financing arrangements on the following terms and conditions:

Lease period	4 years
Security deposit	10% of cost
Interest rate implicit in the lease	1-year KIBOR + 2%
Payment of lease rentals	Annually (payable in arrears)
Early termination penalty	5% of principal outstanding

KIBOR rates in Year 1 and Year 2 were 12% and 11% respectively. In Year 3, KIBOR is expected to be 10% and is likely to remain at the same level for the next two years.

(ii) At the time of acquisition, HCRS had estimated that the cars would be rented out for approximately 180 days in a year and had fixed the rental amount to achieve an IRR of 20%. However, the cars were rented out for an average of 120 days per year in each of the first two years. HCRS expects the demand to remain at the same level during the following two years.

Actual/estimated annual maintenance expenditures on each car are as follows:

	Actual		**Estimated**	
Year	**1**	**2**	**3**	**4**
Annual maintenance expenditures (Rs.)	60,000	80,000	100,000	120,000

(iii) The cars are estimated to have a residual value of 50% of cost at the end of their useful life of 4 years. Depreciation is charged on straight line basis.

(iv) The cost of each car is Rs. 1,850,000 and their present realisable values are as follows:

Cars	**A**	**B**	**C**	**D**	**E**
Realizable value (Rs.)	1,200,000	1,300,000	1,150,000	1,350,000	1,250,000

(v) Applicable tax rate for the company is 35%.

Required:
Advise HCRS about the cars which need to be disposed of. **(20)**

Q.2 (a) Briefly explain any ***seven*** factors that are considered for establishing the credit rating of a debt instrument. **(07)**

(b) Harappa Pakistan Limited (HPL) wishes to invest Rs. 400 million in a project which would be financed by issuing debentures of Rs. 250 million and the balance amount would be financed through excess cash available with the company. HPL anticipates that the project itself will generate sufficient cash flows to be able to redeem the debentures in five years. The directors are considering the following three alternatives for raising the finance:

(i) Issuance of debentures at a discount with fixed interest rate of 8%.
(ii) Issuance of zero coupon debentures which would be redeemed at the end of year 5 at face value.
(iii) Issuance of debentures at face value at market interest rate.

HPL had also issued debentures amounting to Rs. 150 million previously. These are due to be redeemed in three years and carry mark up at the rate of 10% payable annually and are being traded at Rs. 94.80. The face value of existing as well as proposed debentures is Rs. 100 each.

The credit rating of existing debentures is 'A+'. The directors anticipate that after the new issue, the credit rating for both debentures would be 'A'.

The investors are expected to invest in the debentures if the following rates are offered:

Credit rating	Year 1	Year 2	Year 3	Year 4	Year 5
A+	7.45%	8.62%	9.78%	11.13%	11.84%
A	7.70%	8.92%	10.14%	11.60%	12.34%

Required:
Analyse each of the above three alternatives relating to issuance of debentures and discuss the circumstances under which each alternative would be advisable. **(13)**

Q.3 Shahriq Holdings Limited (SHL) is a subsidiary of a UK based company. It entered into an agreement to acquire 60% shareholding in a local company for which it received an advance of GBP 2.5 million from its parent company. The advance is repayable on 30 September 2013.

SHL is exploring various options to hedge against any adverse movements in foreign exchange rates, for which the following data is available:

(i) **Exchange rates on 1 June 2013**

	GBP 1	
	Buy	**Sell**
Spot	Rs. 153.65	Rs. 153.90
4-months forward contract	Rs. 157.49	Rs. 157.75

(ii) **Currency futures (GBP) on 1 June 2013**

Futures have a contract size of GBP 5,000 and the margin required is Rs. 7,500 per contract. Contract prices (Rupee per GBP) are as follows:

	GBP 1
June 2013	Rs. 154.67
September 2013	Rs. 157.36

The contracts can mature at the end of the above months only. It is expected that the difference between futures and spot prices would continue to remain the same.

SHL's incremental rate of borrowing is 10% per annum.

Required:
SHL estimates that on 30 September 2013, GBP 1 would either be equal to Rs. 154 or Rs. 155 or Rs. 156. Under each of the three possibilities, determine which method should be selected by SHL. **(11)**

Q.4 Katkhair Engineering Limited (KEL) is a 100% equity-financed company. The company designs and assembles a wide range of made-to-specification mechanical appliances for industrial customers. The actual manufacturing of the components used in appliances is usually outsourced but KEL ensures that the components conform to its specifications in terms of design and metallurgy. The individual components are finally assembled and tested at KEL's own facilities.

KEL has recently developed a new appliance 'EN-43' and is in the process of deciding as to whether it would be financially feasible to produce EN-43 on commercial basis. The following information is available:

Sales revenue and marketing expenses

(i) EN-43 would generate cash flows for five years. It is estimated that each EN-43 will be sold for Rs. 9,000 and annual production and sales of the appliance will be 1,500 units in each of the five years.

(ii) An expenditure of Rs. 3 million was incurred on the designing, testing and market research of EN-43. It includes amount of Rs 1.2 million incurred on materials and services.

Outsourcing costs

(iii) Manufacturing of components would be outsourced at a total cost of Rs. 4,000 for each EN-43. It includes Rs. 1,200 for component L-17.

KEL already has 1,000 units of L-17 in stock. These were acquired for Rs. 800 each. If EN-43 is not produced, the existing units of L-17 would be returned to the vendor at Rs. 700 each.

Assembling costs

(iv) Assembly of EN-43 would require separate premises whose rent is estimated at Rs. 450,000 per annum, payable in advance.

(v) Assembly of each EN-43 would require 15 and 35 man hours of skilled and unskilled workers respectively. The rate of wages is Rs. 100 per hour for skilled workers and Rs. 60 per hour for unskilled workers. KEL pays 50% for idle hours. If EN-43 is not produced, 5,000 hours of unskilled workers would remain idle in years 1 and 2.

(vi) Incremental overheads excluding depreciation are estimated at Rs. 500,000 per year.

(vii) The assembling of EN-43 would require machines which would cost Rs. 4,400,000. The machines would have a useful life of five years after which these may be sold at 20% of their original cost.

Other information

(viii) Tax rate applicable to the company is 35% and tax is payable in the same year. Allowable initial and tax depreciation on the machine is 40% and 20% respectively.

(ix) KEL evaluates its investment using a nominal discount rate of 15%.

(x) The rate of inflation is estimated at 10% per annum and would affect all costs and revenues.

Required:

(a) Recommend whether or not KEL should proceed with the EN-43 project. ***Assume that working capital requirements are immaterial and all cash flows arise at the end of the year unless specified otherwise.*** **(17)**

(b) Carry out a sensitivity analysis to assess and compare the sensitivity of the project, to the following variables:
- Sales price
- Nominal discount rate **(07)**

Q.5 The Board of Directors of Taxila Power Limited (TPL) is considering to acquire the entire shareholding of Digari Power Limited (DPL) in a share exchange arrangement. TPL's Board is of the opinion that the proposed acquisition would enable TPL to:

(i) immediately increase the combined profits of the two companies by Rs. 12 million;
(ii) sell DPL's surplus fixed assets. These assets can be sold for Rs. 20 million; and
(iii) reduce TPL's risk factor as perceived by its shareholders which would result in decline in their annual return expectations by 2%.

DPL has maintained a steady level of profitability and dividend performance in the preceding years and its existing shareholders expect that this trend would continue in the future. Current market value of DPL's ordinary shares is Rs. 25.60 per share.

Following information has been extracted from the financial statements of both the companies for the year ended 31 May 2013:

	TPL	DPL
	Rs. in million	
Non-current assets	600	100
Current assets, less current liabilities	200	20
Share capital (Rs. 10 each)	100	50
Reserves	700	70
Net profit for the year	80	16
Dividend for the year (paid on 31 May 2013)	40	16

The current market value of TPL's ordinary shares is Rs. 56 per share. At present, the expected growth rate in net profits is 12% per annum which is expected to be maintained after acquisition. The Board intends to continue to maintain the same dividend payout ratio.

Required:

(a) Calculate the maximum price that TPL may pay for the acquisition of DPL. **(08)**

(b) The financial consultant of TPL is of the opinion that DPL's shareholders may be persuaded to sell the entire shareholding at a premium of 20% over the current market price. Based on this assumption:

(i) Calculate the number of shares which TPL would be required to issue to the shareholders of DPL as price consideration. **(04)**

(ii) What benefits, if any, would accrue to the existing shareholders of TPL and DPL through the proposed acquisition? **(03)**

(iii) Discuss other relevant factors that the directors/shareholders of both companies may consider in assessing the proposed acquisition. **(10)**

Ignore taxation.

(THE END)

Business Finance Decisions

Final Examination	5 December 2012
Winter 2012	100 marks - 3 hours
Module F	Additional reading time - 15 minutes

Q.1 ABM Limited is contemplating a major capacity expansion project that will require an investment of Rs. 6,000 million. It plans to raise this amount on 01 January 2013 from a combination of debt and equity in such a way as to arrive at a debt equity ratio of 60:40 in terms of market value.

The projected capital structure of ABM on 31 December 2012 is as follows:

	Rs. in million
Ordinary share capital (Rs. 10 each)	2,500
Retained earnings	2,000
	4,500
Term finance certificates (Rs. 100 each)	5,000

Earnings per share of the company for the year ending 31 December 2012 is projected at Rs. 3.50 per share whereas the price of its shares on the above date is expected to be Rs. 19.55 per share. ABM plans to offer shares at 80% of their market value.

Existing TFCs were issued on 01 July 2009 and carry a coupon rate of 12% payable semi-annually. Principal repayment is due on 30 June 2014. Due to increase in market interest rates, the TFCs are currently trading at a discount providing an yield to maturity of 14%. Consequently, the new debt would be offered at a coupon rate of 14% per annum. All other terms and conditions would remain the same.

Required:
(a) Calculate the amount to be raised by issue of debt and equity. **(08)**
(b) Compute the number of right shares to be issued and the ex-right price. **(03)**
(c) Assess whether the debt equity ratio would remain within the threshold, on 30 June 2013, if:
- the yield to maturity comes down to 13%; and
- the net profit and P/E ratio increase by 15% and 5% respectively. **(07)**

(Ignore taxation)

Q.2 (a) Discuss any ***five*** limitations of NPV technique when applied generally to investment appraisal. **(05)**

(b) CDN Limited uses a machine for manufacturing some of its products. The machine is replaced every three years. Considering the high maintenance costs in the third year, CDN is considering to revise its replacement policy from three years to two years. Details of purchase price, maintenance costs and net realizable value at **current prices** are as follows:

	Year 0	Year 1	Year 2	Year 3
Purchase price (Rs.)	3,200,000	-	-	-
Maintenance costs (Rs.)	-	130,000	245,000	480,000
Net realizable value (Rs.)	-	-	1,280,000	700,000

Annual increase in purchase price, maintenance costs and net realizable value is estimated at 10%, 15% and 8% respectively. The weighted average cost of capital of the company is 18%.

Required:
Determine whether CDN should revise its replacement policy. **(15)**

Q.3 (a) GHP Limited is a fast growing business which operates a chain of petrol pumps across the country. The company is committed to an aggressive strategy of expansion through acquisition. It is considering to acquire 100 percent shareholding in IJQ Limited that operates a chain of CNG stations on the highways. GHP is contemplating to offer 1 share for every 3 shares held in IJQ.

Latest financial data of GHP and IJQ are summarised below:

Statement of Financial Position

	GHP	IJQ
	Rs. in million	
Non-current assets	5,220	2,340
Current assets minus current liabilities	1,640	900
	6,860	3,240
Less: Non-current liabilities	1,240	120
	5,620	**3,120**
Ordinary share capital (Rs. 10 each)	3,000	2,000
Retained earnings	2,620	1,120
	5,620	**3,120**

Statement of Comprehensive Income

	GHP	IJQ
	Rs. in million	
Revenue	11,280	4,840
Net profit after taxation	6,580	3,760
Dividend	1,316	1,880

Average share price for each company in recent years has been as follows:

	2009	2010	2011	2012
	--------------------Rupees--------------------			
GHP	70	96	138	186
IJQ	48	64	68	58

GHP's board of directors feel that there is a strong synergy between the two businesses which will lead to an increase of Rs. 300 million per year in combined after tax profit, following the acquisition. Both GHP and IJQ are listed companies and their cost of capital is 13% and 18% respectively.

Required:

(i) Calculate the share price of GHP following the takeover, assuming price earnings ratio of the company is maintained and the synergy is achieved as expected. **(05)**

(ii) Calculate the cost of equity of the merged entity. You may use any reasonable assumption wherever necessary. **(05)**

(b) Mr. Danish, a shareholder of IJQ, has expressed concern over the bid. He claims that, following the acquisition, the annual dividends are likely to be lower as GHP normally pays small dividends. As he relies on dividend income to cover his living expenses, he is concerned that he will be worse off following the acquisition. He also believes that price offered for the shares of IJQ is too low.

Required:

Discuss the bid from the point of view of shareholders of IJQ including the concerns raised by Mr. Danish. **(08)**

Q.4 KLR Limited has two operating segments viz. Paints and Chemicals. Break-up of its shareholders' equity is as follows:

	Rs. in million
Share capital (Rs. 10 each)	2,000
Retained earnings	11,765

Latest segment-wise financial information of KLR is summarized below:

	Chemicals	Paints
	Rs. in million	
Revenue	3,150	2,500
Gross profit	378	650
Net profit after tax	220	330
Assets		
Non-current assets	6,610	5,250
Current asset	7,930	6,300
Liabilities		
Non-current liabilities - 12% Debentures (Rs. 100 each)	2,100	1,950
Current liabilities	4,770	3,505

KLR's current share price is Rs. 13 per share and the market value of its debenture is Rs. 101.50. The risk free interest rate and market return are 8% and 14% respectively. KLR's equity beta is 1.15. Debentures are redeemable at par in ten years.

The company is considering a demerger whereby the two segments would be listed separately on the stock market. The existing equity would be split between the segments based on the net assets held by each segment. The following information is relevant for the purpose of demerger:

(i) Transfers to the Paint Segment account for 25% of the revenues of the Chemicals Segment. The transfers are made at cost. After the demerger, all transactions would be made on an 'arms length basis'.
(ii) Common expenses amounting to Rs. 100 million are shared by the two segments on the basis of their revenues. After the demerger, cost of such expenses for Chemicals and the Paints entities would be Rs. 70 million and Rs. 30 million respectively.
(iii) The average equity betas of the companies associated with the Chemicals and Paints business is 1.2 and 1.5 respectively and the average debt equity ratios are 60:40 and 70:30 respectively.
(iv) Projected cash flows for Year 1 are as follows:

	Chemicals	Paints
	------Rs. in million------	
Pre-tax operating cash flows	280	360
Tax deprecation	70	40

From Year 2, projected cash flows and profit after tax are expected to grow at 5% per annum in perpetuity.

Tax rate is 35%. Tax is payable in the year in which the relevant cash flows arise.

Required:

(a) Calculate the weighted average cost of capital of both companies after demerger. **(10)**

(b) Using cash flows, evaluate whether the demerger would be financially advantageous for KLR's existing shareholders. **(15)**

Q.5 EFO Pakistan Limited intends to make an investment of Rs. 3,000 million. Besides Pakistan, EFO has the option to invest either in UAE or in Bangladesh. The total market value of the company's existing share capital is Rs. 9,000 million.

Estimates of returns on investment are presented below:

Economic Performance	**Probability**	**Current and Expected Return in Pakistan %**	**Expected Return % on investment in**	
			UAE	**Bangladesh**
Low growth	0.3	2	5	3
Average growth	0.5	8	9	11
High growth	0.2	14	13	19

Standard deviation of expected returns are as follows:

UAE	5.12
Bangladesh	8.05
Pakistan	1.34

Co-variances of expected returns are as follows :

Pakistan/UAE	5.96
Pakistan/ Bangladesh	10.66

Directors of EFO have different viewpoints about the proposed investment which are summarised below:

(i) Since the company does not have any prior experience of investment abroad, it should focus exclusively on exploring opportunities within Pakistan because investment abroad carries inherent risks.
(ii) Investment abroad will offer the company the opportunity to achieve a much better combination of risk and return than purely domestic investments, and will open up new opportunities.
(iii) Since expected returns are high in Bangladesh, the company should invest there and subsequently increase the company's investment in Bangladesh.

Required:
(a) Calculate the anticipated risks and returns on the proposed investment. **(11)**
(b) Briefly discuss the viewpoints of the directors about the proposed investment. **(04)**
(c) What other factors, in your opinion, would have a bearing on the investment decision? **(04)**

(THE END)

The Institute of Chartered Accountants of Pakistan

Business Finance Decisions

Final Examination — 6 June 2012
Summer 2012 — 100 marks - 3 hours
Module F — Additional reading time - 15 minutes

Q.1 Mac Fertilizer Limited (MFL) is a listed company and is engaged in the business of manufacturing of phosphate fertilisers. MFL intends to diversify its operations by manufacturing and distributing steel products. This diversification would require an investment of Rs. 3,600 million for establishing the plant and meeting the working capital requirement. MFL plans to finance the investment as follows:

- 55% of the investment would be financed by issuing Term Finance Certificate (TFCs) carrying interest at 12% per annum and repayable in 2018.
- The balance amount would be generated by issuing right shares at Rs. 65 per share.

Extract of MFL's statement of financial position as at 31 December 2011 is given below:

Equity and liabilities	Rs. in million	Assets	Rs. in million
Share capital (Rs. 10 each)	7,000	Non-current assets	50,000
Retained earnings	23,000		
TFCs (Rs. 100 each)	28,000	Current assets	40,000
Current liabilities	32,000		
	90,000		90,000

The existing TFCs carry mark up @ 11.5% per annum and are due for redemption at par in 2016.

Currently, MFL's shares and TFCs are traded at Rs. 80 and Rs. 102.50 respectively. Equity beta of the company is 1.3.

The proposed investment has been evaluated at a discount rate of 17% which is based on existing cost of equity plus a premium that takes cognisance of the risks inherent in the steel industry. However, there are divergent views among the directors regarding the discount rate that has been used.

- Director A is of the view that the premium charged to reflect the risk in the steel industry is too low. He is of the opinion that the company's existing weighted average cost of capital is more appropriate discount rate for evaluation of this investment.
- Director B suggests that the discount rate should be representative of the steel industry. He has provided the following data pertaining to a listed company, Pepper Steel Limited (PSL).
  - 900 million shares of Rs. 10 each are outstanding which are currently being traded at Rs. 35.
  - Long term loan amounted to Rs. 8,000 million obtained from local banks at the average rate of 13%.
  - Equity beta of the company is 1.5.

You have been appointed as the Lead Advisor by an Investment Bank working on this transaction. You have obtained the following information:

Interest rate for 6-months treasury bills	8%
Market return	13%
Applicable tax rate for all companies	30%

Debt beta of MFL and PSL is assumed to be zero.

Required:
Compute the discount rate based on suggestions given by Directors A and B and discuss which suggestion is more appropriate. ***(19 marks)***

Q.2 CB Investment Limited (CBIL) has identified various projects for investments. Details of the projects are as follows:

Projects	**A**	**B**	**C**	**D**	**E**	**F**
Initial investment required now (Rs. in million)	(300)	(120)	(240)	(512)	(800)	(400)
Forecasted annual net cash inflows (Rs. in million)	150	50	140	256	440	300
Discount rate (based on risk involved in the project)	10%	11%	12%	11%	13%	14%
Project duration (years)	4	5	3	6	3	2
Year from which net cash inflows would commence	1	2	1	3	1	1

Other relevant information is as follows:
(i) Project A and B are mutually dependent and are non-divisible.
(ii) Project C can be scaled down but cannot be scaled up.
(iii) Project D, E and F are mutually exclusive. They cannot be scaled down but can be scaled up.

Total financing available with the company is Rs. 1,000 million. It may be assumed that all cash flows would arise at the beginning of the year.

Required:
Determine the most beneficial investment mix. ***(20 marks)***

Q.3 Beta Limited (BL) is engaged in the business of manufacturing and marketing of high quality plastic products to the large departmental stores in Pakistan and United Arab Emirates. BL is presently experiencing a decline in sales of its products. Market research carried out by the Marketing Department suggests that sustained growth in sales and profits can be achieved by offering a wide range of products rather than a limited range of quality products. In this regard, BL is considering the following two mutually exclusive options:

Option I : Introduce low quality products in the market

Following information has been worked out by the Chief Financial Officer of the company:

Net present value using a nominal discount rate of 13%	Rs. 82 million
Discounted payback period	3.1 years
Internal rate of return	10.5%
Modified internal rate of return	13.2% approximately

Option II : Import variety of plastic products from China

BL would buy in bulk from Chinese suppliers and sell it to the existing customers. The projected net cash flows at current prices after acceptance of this option are as follows:

	Year 0	**Year 1**	**Year 2**	**Year 3**	**Year 4**
Against import from China (US$ in million)	(25.00)	(20.00)	(21.33)	(22.33)	(20.67)
From operation in UAE (US$ in million)	-	22.47	24.15	25.23	23.37
From operations in Pakistan (Rs. in million)	-	333	350	414	450

The following information is also available:
(i) The current spot rate is Re. 1=US$ 0.0111.
(ii) BL evaluates all its investment using nominal rupee cash flows and a nominal discount rate.
(iii) Inflation in Pakistan and USA is expected to be 10% and 3% per annum respectively.

Tax may be ignored.

Required:
Evaluate the two options using net present value, discounted payback period, internal rate of return and modified internal rate of return. Give brief comments on each of the above methods of evaluation and their relevance in the given situation. ***For the purpose of evaluation, assume that BL has a four year time horizon for investment appraisal.*** ***(17 marks)***

Q.4 FF International (FFI) is considering the opportunity to acquire CS Limited (CSL). You have been appointed as a consultant to advise the FFI's management on the financial aspects of the bid.

The latest summarized annual financial statements of CSL are given below:

Summarized Statement of Financial Position

	Rs. in million
Total assets	5,000
Share capital	2,000
Accumulated profit	150
Long term loan	700
Short term loan	1,300
Other current liabilities	850
	5,000

Summarized Income Statement

	Rs. in million
Sales	1,000
Less: Cost of sales	(430)
Gross profit	570
Selling and administration expenses	(250)
Financial charges	(280)
Profit before taxation	40
Taxation	(14)
Profit after taxation	26

You have also gathered the following information:

(i) CSL produces a single product X-201 and has a market share of 30%. A market survey conducted to identify the impact of increase or decrease in price has revealed the following relationship between price of X-201 and market share:

Increase / (decrease) in price	Market share
(10%)	45%
5%	23%
10%	20%

(ii) In order to increase production, CSL would have to invest Rs. 150 million in plant and machinery which would be financed through long term loan on terms and conditions similar to those of the existing long term loan, as specified in point (v) below.

(iii) Fixed production costs amount to Rs. 100 million which include depreciation of Rs. 75 million.

(iv) 80% of selling and administration expenses are fixed. Fixed costs include depreciation of Rs. 25 million and salaries of Rs. 160 million. After acquisition, FFI expects to reduce the staff in sales and administration by making one-time payment of Rs. 100 million. It would reduce the department's salaries by 25% and the remaining fixed costs by 30%.

(v) Long term loan carries mark- up @ 15% per annum. The balance amount of principal is repayable in five equal annual instalments payable in arrears.

(vi) Mark up on short term loan is 14% per annum. CSL has failed to meet certain debt covenants and therefore its bankers have advised CSL to reduce the short term loan to Rs. 1,000 million.

(vii) It is the policy of the company to depreciate plant and machinery at 20% per annum using straight line method. Accounting depreciation may be assumed to be equal to tax depreciation.

(viii) Working capital would vary at the rate of 40% of increase / decrease in sales.

(ix) Tax rate applicable to both companies is 30% and tax is payable in the same year. CSL has unutilized carry forward tax losses of Rs. 80 million.

(x) All costs as well as sales are expected to increase by 10% per annum.

(xi) Free cash flows of CSL are expected to grow at 5% per annum after Year 5.

(xii) Based on the risk analysis of this investment, the discounting rate is estimated at 18%.

Required:

(a) Discuss any ***two*** advantages and disadvantages of growth through acquisition. ***(04 marks)***

(b) Determine the following:
- Optimal sales level at which CSL's profit would be maximised. ***(05 marks)***
- Amount of cash flow gap at optimal level of sales during the first five years of acquisition. ***(14 marks)***

(c) Calculate the bid price that FFI may offer for the acquisition of CSL assuming that cash flow gap identified in (b) above would have to be filled by FFI by way of an interest free loan. ***(07 marks)***

Q.5 Assume that the date today is 1 June 2012. Alpha Automobiles Limited (AAL) has imported CNG kits from Japan and has to repay an amount of JPY 175 million in three months time.

AAL intends to hedge the contract against adverse movements in foreign exchange rates and its foreign exchange exposures. The following data are available:

Exchange rates quoted on 1 June 2012

	JPY 1	
	Buy	**Sell**
Spot rate	Rs. 1.9223	Rs. 1.9339
One month forward rate	Rs. 1.9335	Rs. 1.9451
Three month forward rate	Rs. 1.9410	Rs. 1.9493

Interest rates available to AAL

	Borrowing	**Investing**
Japan	5%	3%
Pakistan	8%	5%

JPY currency futures

Futures have a contract size of JPY 100,000 and the margin required is Rs. 1,000 per contract. Contract prices (Rupee per JPY) are as follows:

	JPY 1
July 2012	Rs. 1.9365
October 2012	Rs. 1.9421
January 2013	Rs. 1.9490

The contracts can mature at the end of the above months only.

Currency options

Options have a contract size of JPY 250,000. The premiums (paisa per Rupee) payable on various options and the corresponding strike prices are shown below:

Strike price	**Calls**		**Puts**	
	31 July 2012	**31 October 2012**	**31 July 2012**	**31 October 2012**
Rs.	---------------------------**Paisas**	---------------------------		
1.90	2.88	3.55	0.15	0.28
1.91	1.59	2.32	1.00	1.85
1.92	0.96	1.15	2.05	2.95

Options are exercisable at the end of relevant month only.

Required:

Illustrate **four** methods by which Alpha Automobiles Limited might hedge its currency exposure. Recommend which method should be selected. ***(14 marks)***

(THE END)

The Institute of Chartered Accountants of Pakistan

Business Finance Decisions

Final Examination	7 December 2011
Module F	100 marks – 3 hours
Winter 2011	Additional reading time – 15 minutes

Q.1 (a) Briefly discuss the Dividend Irrelevance Theory developed by Miller and Modigliani (MM). State three arguments against the validity of this theory. ***(05 marks)***

(b) Al-Ghazali Pakistan Limited (AGPL) is a listed company whose shares are currently traded at Rs. 80 per share. AGPL's Board has approved a proposal to invest Rs. 600 million in a project which is expected to commence on 31 December 2012. There are no internal funds available for this investment and the company would have to finance the project from the profit for the year ending 31 December 2012 and through right issue.

AGPL has a share capital consisting of 20 million shares of Rs. 10 each and its profit for the year ending 31 December 2012 is projected at Rs. 250 million.

The annual return on 1-year treasury bills, the standard deviation of returns on AGPL's shares and the estimated correlation of returns with market returns are 7.5%, 8% and 0.8 respectively. The current market return is 12.9% with a standard deviation of 5%.

Required:
Using MM Theory of Dividend Irrelevance, estimate the price of AGPL's shares as at 31 December 2012, if the company declares:
(i) 20% dividend
(ii) Nil dividend ***(05 marks)***

(c) Justify the MM Theory of Dividend Irrelevance, based on your computation in (b) above. ***(05 marks)***

Q.2 The directors of Khayyam Limited (KL) are considering an investment proposal which would need an immediate cash outflow of Rs. 500 million. The investment proposal is expected to have two years economic life with salvage value of Rs. 50 million at the end of second year.

KL's Budget and Planning Department anticipates that Net Cash Inflows After Tax (NCIAT) are dependent on exchange rate of the US $ and has made the following projections:

	Exchange Rate Rs. 84-87		Exchange Rate Rs. 88-91		Exchange Rate Rs. 92-95	
	NCIAT	**Probability**	**NCIAT**	**Probability**	**NCIAT**	**Probability**
Year 1	250	65%	320	35%	-	-
Year 2:						
– If Year 1 exchange rate is Rs. 84-87	280	20%	330	65%	360	15%
– If Year 1 exchange rate is Rs. 88-91	340	5%	380	50%	400	45%

All NCIATs are in millions of rupees

KL uses a 14% discount rate for investments having similar risk levels.

Required:
(a) Draw a decision tree to depict the above possibilities. ***(04 marks)***
(b) Determine whether it would be advisable for Khayyam Limited to undertake this project. ***(10 marks)***

Q.3 Ibn-Seena Limited (ISL) is a reputable unquoted company engaged in the business of manufacturing and sale of pharmaceutical products. It is presently considering a proposal to acquire Al-Biruni Pharmaceuticals (Private) Limited (APPL) which is a wholly owned subsidiary of Al-Biruni International (ABI).

Summarised income statements of ISL and APPL for the latest financial year are given below:

		ISL	APPL
		Rs. in million	
Sales		2,500	1,800
Less: Cost of sales	- Variable	(1,350)	(630)
	- Fixed *	(150)	(190)
Gross profit		1,000	980
Selling expenses		(375)	(360)
Administration expenses		(125)	(90)
Profit before tax		500	530
Tax (35%)		(175)	(186)
Profit after tax		325	344

**** includes depreciation of Rs. 70 million and 100 million respectively***

Other Information

(i) APPL's sales consist of Generic Medicines (40%) and Patented Products (60%). Presently, 20% of the revenue from Patented Products is contributed by a product Z-11. All patents are owned by ABI; however, no royalty or technical fee is presently claimed by it.

(ii) The variable costs of Patented Products are 30% of the sales amount. Product Z-11 will complete its patent period after three years and thereafter its price would have to be reduced. Consequently, the ratio of variable costs of production to sales would fall in line with that of Generic Medicines.

(iii) After acquisition the costs and revenues of APPL are projected as follows:
- Total sales and variable costs would grow at 10% per annum except in Year 4 when the growth rate of sales would decline on account of reduction in price of product Z-11.
- Fixed costs other than depreciation would increase at the rate of 5% per annum. However, depreciation would remain constant over the next five years.
- Selling expenses and administration expenses would be reduced by 30% and 80% respectively. However, from Year 2 onwards, selling expenses would increase at 7% per annum whereas administration expenses would increase by 5% per annum.
- ABI will charge 15% royalty on sale of Patented Products whereas 3% technical fee will be levied on the sales of all products.

(iv) Free cash flows of APPL are expected to grow at 3% per annum after Year 5.

(v) ISL intends to finance this project through debt carrying interest at the rate of 10% per annum. The principal would be re-payable at the end of Year 6.

(vi) ISL would discount this project at its existing weighted average cost of capital of 20%.

Required:

(a) Calculate the bid price that ISL may offer for the acquisition of APPL. ***(17 marks)***

(b) Assess the impact of the acquisition on the wealth of ISL's shareholders at the end of Year 5 assuming that the shares at that time would be priced at 7 times its PE ratio and ISL's profit after tax would increase at 8% per annum. ***(03 marks)***

Q.4 Khaldun Corporation (KC) is a Pakistan based multinational company and has number of inter-group transactions with its two foreign subsidiaries KA and KB, which are located in USA and UK respectively. Details of receipts and payments which are due after approximately three months are as follows.

Paying Company	Receiving Company		
	KC (Pak)	KA (USA)	KB (UK)
	------------in million------------		
KC (Pak)	-	Rs. 131	£ 5.10
KA (USA)	US $ 1.50	-	US $ 4.50
KB (UK)	£ 4.00	£ 1.80	-

The current exchange rates and interest rates are as follows:

	Exchange Rates			
	US $ 1		UK £ 1	
	Buy	Sell	Buy	Sell
Spot	Rs. 86.56	Rs. 86.80	Rs. 134.79	Rs. 135.13
3 months forward	Rs. 87.00	Rs. 87.20	Rs. 135.87	Rs. 136.18

	Interest Rates	
	Borrowing	Lending
KC (Pak)	10.50%	8.50%
KA (USA)	5.20%	4.40%
KB (UK)	5.90%	5.00%

Required:

(a) Calculate the net rupee receipts/payment that KC (Pak) should expect from the above transactions under each of the following alternatives:
- Hedging through forward contract
- Hedging through money market *(08 marks)*

(b) Demonstrate how multilateral netting might be of benefit to Khaldun Corporation. *(06 marks)*

Q.5 Ghazali Limited (GL) operates a chain of large retail stores in country X where the functional currency is CX. The company is considering to expand its business by establishing similar retail stores in country Y where functional currency is CY. As a policy, GL evaluates all investments using nominal cash flows and a nominal discount rate.

The required investments and the estimated cash flows are as follows:

(i)
- **Investment in country X**
  CX 7 million would be required to establish warehouse facilities which would stock inventories for supply to the retail stores in country Y at cost. At current prices, the annual expenditure on these facilities would amount to CX 0.5 million in Year 1 and would grow @ 5% per annum in perpetuity.
- **Investment in country Y**
  Investment of CY 800 million would be made for establishing retail stores in country Y. At current prices, the net cash inflows for the first three years would be CY 170 million, 250 million and 290 million respectively. After Year 3, the net cash inflows would grow at the rate of 5% per annum, in perpetuity.

(ii) Inflation in country X and Y is 7% and 20% per annum respectively and are likely to remain the same, in the foreseeable future. Presently, country Y is experiencing economic difficulties and consequently GL may face problems like increase in local taxes and imposition of exchange controls.

(iii) The current exchange rate is CX 1 = CY 45.

(iv) GL's shareholders expect a return of 22% on their investments. GL uses this rate to evaluate all its investment decisions.

Required:
Prepare a report to the Board of Directors evaluating the feasibility of the proposed investment. Your report should include the following:

(a) Computation of net present value of the project and a recommendation about the viability of the project. ***(12 marks)***
(b) Identification of the risk and uncertainties involved. ***(03 marks)***
(c) Brief discussions on management strategies which may be adopted to counter the risks of increase in local taxes and imposition of exchange controls. ***(05 marks)***

Q.6 Skill Enhancement Centre (SEC) is an established institution with a mission to impart training to the youth by developing their job-related technical skills. It offers industry-specific one year diploma courses to students.

In the recent past, several other institutions have started offering a wide range of new courses with the result that the number of students enrolled in SEC's Textile Designing Course (TDC) has declined to 175 students per annum. SEC is developing its 5-year plan and an important consideration is to replace TDC with Advanced Textile Graphics Course (ATGC).

The following related information is available:

(i) Several computers would need to be upgraded at a cost of Rs. 350,000. However, if ATGC is not introduced 30 such computers may be sold at Rs. 12,000 each. The current book value of each computer is Rs. 15,000.

(ii) ATGC would require new textile designing software which costs Rs. 1,200,000.

(iii) The new course would be taught and managed by the existing staff which receives total remuneration of Rs. 6,000,000 per annum. However, if the enrolment in ATGC program exceeds 225 students per annum, two new technical instructors would have to be engaged at a cost of Rs. 1,800,000 per annum which would be payable in advance.

(iv) Details relating to income from fees and other costs are as follows:

	Timing of cash flows	**TDC**	**ATGC**
		Rupees	
Course fee per student	In advance	42,000	43,200
Cost of training material per student	In advance	6,000	7,400
Directly attributable costs (per annum)	In arrears	120,000	230,000
Apportionment of overheads excluding staff costs	In arrears	2,400,000	3,000,000
Preliminary costs (including training of instructors)	In advance	-	750,000

(v) On an average, a new student enrolled in a course brings additional revenue of Rs. 2,400 per annum on account of other activities.

(vi) Being an educational institution, SEC is exempted from income tax.

(vii) SEC assesses the viability of a course using a discount rate of 7%.

(viii) It is assumed that the number of students enrolled would remain constant throughout the five-year period.

Required:
Determine the minimum annual enrolments which would make it financially viable for SEC to introduce ATGC. ***(17 marks)***

(THE END)

Business Finance Decisions

Final Examinations Module F – Summer 2011	**Reading time – 15 minutes**	June 8, 2011 100 marks – 3 hours

Q.1 (a) GER Auto Parts Limited is engaged in the manufacture of automobile spare parts. GER's summarised financial statements for the year ended December 31, 2010 are as follows:

Balance Sheet

Equity and Liabilities	Rupees	Assets	Rupees
Share capital (Rs. 10 each)	1,250,000	Fixed assets	7,500,000
Reserves	5,250,000	Inventory	750,000
Long term debt	2,500,000	Receivables	875,000
Current liabilities	625,000	Cash	500,000
	9,625,000		9,625,000

Income Statement

		Rupees
Sales of 12,500 units		11,718,750
Variable costs		(7,812,500)
Fixed costs		(1,750,000)
Interest expense	(10%)	(250,000)
Profit before tax		1,906,250
Tax	(35%)	(667,188)
Net profit		1,239,062

Owing to competitive pressures, GER plans to reduce the prices of existing products by 6%. However, variable and fixed costs (excluding interest) are expected to increase by 5% and 10% respectively. Interest rate is floating and is expected to increase to 10.6% per annum.

Required:
Calculate the amount of sales that GER should achieve in the following year to enable it to maintain its existing total leverage. Show how this change would affect the operating and financial leverages. ***(07 marks)***

(b) GER's management is also considering to launch a new product. Based on market research, it has identified the following options:

	Option 1 Product X	Option 2 Product Y
Investment required (Rs.)	3,000,000	7,000,000
Unit price (Rs.)	15,000	5,000
Fixed cost (Rs.)	200,000	300,000
Expected sales (units)	200	1,000
Variable costs (% of sales)	78%	73%

The management plans to invest in any one of these options. The investment would be financed through long term debt which is available at 12% per annum.

Required:
Calculate the impact of each of the above options on GER's operating and financial leverages for the year ending December 31, 2011. Which option would you recommend and why? *(You may assume that implementation of the above options would have no impact on the sales of existing products as computed in (a) above).* ***(08 marks)***

Q.2 The Trustees of FR Co-operative Housing Society are planning to invest its surplus funds in different open end mutual funds. Details of proposed investments along with market information gathered from a stock analyst are as follows:

	Mutual Funds		
	A	B	C
▪ **Information on proposed investment**			
Date of investment	1-Jul-11	1-Aug-11	1-Sep-11
Amount of investment	Rs. 500,000	Rs.1,000,000	Rs. 500,000
Estimated net asset value on acquisition	Rs. 10.50	Rs. 10.00	Rs. 9.70
Estimated net asset value as on December 31, 2011	Rs. 10.40	Rs. 10.00	Rs. 9.90
▪ **Expected dividends** ***(during the investment holding period)***			
Cash dividend to be received	Rs. 9,500	Rs. 15,000	-
Bonus to be received	10%	5%	5%
▪ **Funds characteristics**			
Front end load (Buying load)	3.00%	2.00%	1.50%
Back end load (Selling load)	1.00%	0.00%	2.00%
Sharpe ratio	0.71	0.31	0.16
Correlation with benchmark indices	0.75	0.92	0.83
▪ **Expected performance of benchmark indices**			
Benchmark index	KSE 100	KSE 30	KMI 30
Total annual return %	16	17	12
Standard deviation of annual returns	0.10	0.18	0.13

The yield on 1-year treasury bills is 9%.

Required:

(a) Estimate the effective annual yield which FR would earn, from the date of investment up to December 31, 2011.

(b) In respect of each fund, evaluate whether it would achieve the return in accordance with its risk profile. ***(15 marks)***

Q.3 In order to reduce the cost of electricity consumption, HIN Textile Mills Limited has decided to install a gas generator and discontinue the power supply being obtained from a utility company. The gas generator which would meet their requirements would cost Rs. 80 million. The following two proposals are being considered by HIN:

Option 1: Offer from BAL Leasing Company Limited

BAL has offered a three year lease at a quarterly rent of Rs. 7.46 million payable in arrears. In addition, HIN would be required to pay a security deposit of Rs. 10 million at the time of signing the lease agreement. Generator will be transferred to HIN at the end of the lease term, against the security deposit.

The fair value of the generator, at the end of lease period is estimated at Rs. 20 million.

Operating and maintenance costs of the generator are estimated as follows:

Costs	Frequency	Rs. in million
Staff salary	Monthly	0.50
Lubricants and filters	Quarterly	1.00
Parts replacement	Half yearly	3.00
Overhaul	At the end of 2nd year	15.00

Option 2 : Offer from PUS Rental Services
PUS has also offered to sign a three year contract according to which HIN would pay quarterly rent of Rs. 11 million in arrears, with a 10% increase in each subsequent year. The lease rental would include the cost of maintenance and overhauling of the generator, which will be borne by PUS.

It may be assumed that HIN's cost of capital is equal to the IRR offered by BAL.

Required:
Evaluate which of the above proposals should be accepted by HIN. ***(Ignore taxation)*** ***(12 marks)***

Q.4 The management of JAP Recreation Club is evaluating the option to launch a restaurant that would serve complete meal to its members. Presently, it has a snack bar shop which sells snacks and drinks only.

A management consultant firm was hired at a fee of Rs. 85,000 to prepare the feasibility of the project. JAP's Accountant has extracted the following information from the consultant's report:

(i) The restaurant will be launched on the first day of the next year.

(ii) The club membership has been increasing at the rate of 5% per annum. As a result of this facility, it is expected that the rate would increase to 10% per annum.

(iii) The cost of equipment for the restaurant is estimated at Rs. 7,000,000. It would have a residual value of Rs. 510,000 at the end of its estimated useful life of four years.

(iv) It is estimated that during the first year, an average of 100 customers would visit the restaurant, per day. The number would increase in line with the increase in membership. The average revenue from each customer is estimated at Rs. 400 whereas variable costs per customer would be Rs. 260.

(v) Four employees would be appointed in the first year at an average salary of Rs. 200,000 per annum. A fifth employee would be hired from the third year.

(vi) The annual fixed overheads for the current year are estimated at Rs. 4.8 million. 15% of the fixed overheads are allocated to the snack bar. As a result of the establishment of the restaurant the annual expenditure would increase as follows:

	Rupees
Electricity and gas	340,000
Advertising	170,000
Repair and maintenance	85,000

After the establishment of restaurant, 20% of the overheads would be allocated to the restaurant whereas allocation to snack bar would reduce to 10%.

(vii) The snack bar is presently serving an average of 250 customers per day and the number is increasing in proportion to the number of members. If the restaurant is launched, the number of customers would reduce by 40% in the first year but would continue to increase in subsequent years in line with the member base. The average contribution margin from snack bar is Rs. 50 per customer.

(viii) The tax rate applicable to the company is 35% and it is required to pay advance tax in four equal quarterly instalments. JAP can claim tax depreciation at 25% under the reducing balance method. Any taxable losses arising from this investment can be set off against profits of other business activities.

(ix) JAP's post tax cost of capital is 17% per annum before adjustment for inflation. The rate of inflation is 10%.

Required:
Advise whether JAP should invest in the project. Assume that each year has 360 days. ***(16 marks)***

Q.5 ARA Venture Capital Limited specialises in acquiring loss making companies and converting them into profitable entities with the objective of disposing them subsequently.

Presently, ARA is planning to acquire 60% shareholdings in PUN Electric Supply Company. Its Financial Analyst has obtained the following information about PUN's operations:

(i) During the year ended December 31, 2010, total electricity demand and supply was Mwh 2.0 million, whereas the cumulative generation capacity of all the existing plants was Mwh 2.1 million. The demand for electricity is expected to grow at the rate of 5% per annum.
(ii) Cost of power generation per Kwh is Rs. 7 which is expected to increase by 8% per annum.
(iii) PUN's line losses for the year were 30%.
(iv) The Power Tariff Regulatory Authority has allowed PUN to determine the tariff so as to sell electricity at a margin of 10% above the average cost of generation. PUN is allowed to include line losses of up to 20% in the cost of generation. The price per unit is determined by the following formula:

(Total Cost + 10%) ÷ {Number of units produced × (1 – Permissible line losses %)}
where, one unit = 1 Kwh and 1 Mwh = 1,000 Kwh

(v) Revenue collection ratio for the year 2010 was 90% of the aggregate billing.
(vi) Other expenses, excluding depreciation and financial charges for 2010 amounted to Rs. 300 million and are expected to increase by 8% per annum.
(vii) Depreciation is charged on straight line method over the useful life of 20 years. Depreciation for the year 2010 amounted to Rs. 75 million.
(viii) PUN has running finance facilities of Rs. 3,000 million from various banks at an average mark-up of 13% per annum. The facilities utilized as of December 31, 2010 amounted to Rs. 2,785 million.
(ix) In order to meet the future requirements of electricity, PUN's management has already started work on a new generation plant that will be commissioned into operation by the end of 2012 and will increase the present capacity by 15%. Total cost of the new project will be Rs. 1,500 million and PUN had issued TFCs on January 1, 2011 at 14% per annum, to finance the project.
(x) The issued share capital of PUN as at December 31, 2010 consisted of 500 million shares of Rs. 10 each.

ARA intends to invest in PUN's infrastructure facilities to reduce line losses. It also plans to broaden the Recovery Department with the objective of improving the recovery ratio. The projected figures for the next five years are as follows:

Year ending December 31	**2011**	**2012**	**2013**	**2014**	**2015**
Capital expenditures (Rs. in million)	500	600	500	-	-
Additional staff cost in recovery department (Rs. in million)	15	17	18	20	22
Line losses	28%	25%	22%	20%	18%
Recovery ratios	92%	94%	96%	97%	97%

The planned capital expenditures would be incurred at the end of the year. ARA would provide a loan to PUN to finance the capital expenditures. The loan will be disbursed as required and carry a mark up of 10% per annum. It would be repayable on December 31, 2015.

In addition, ARA would provide guarantees to different banks to secure additional running finance facilities for PUN amounting to Rs. 8,000 million, at a mark up of 13% per annum.

ARA requires an IRR of 20% from its investment and expects to exit from this venture by selling its shareholdings at the P/E multiple of 16.

Required:
Determine the purchase consideration that ARA should be willing to pay for the acquisition of 60% shares in PUN. ***(Ignore taxation)*** ***(25 marks)***

Q.6 URD Pakistan Limited, a listed company, is presently considering to acquire 100% shareholdings of CHI Limited, an unlisted company, which is engaged in the same business.

The following information has been extracted from the latest audited financial statements of the two companies:

	URD	CHI
	----------Rs. in million----------	
Non-current liabilities – Term Finance Certificates	1,500	-
Share capital (Rs. 10 each)	400	200
Retained earnings	100	100
Net profit after tax	300	250

Tax rate applicable to both the companies is 35%.

The directors of URD believe that a cash offer for the shares of CHI would have the best chance of success. They are considering various options to finance this acquisition. The initial negotiations suggest that interest rate on debt financing would depend upon the debt equity ratio of the company as shown below:

Debt equity ratio (up to)	40:60	50:50	60:40	70:30
Interest rate	16%	17%	18%	20%

The shares of URD are currently traded at Rs. 52.50. According to the prevailing practice in the market, price earning ratios of unlisted companies are 10% less than those of listed companies.

Required:
Write a report to the Board of Directors, on behalf of Mr. Shah Rukh, the Chief Financial Officer of the company, discussing the following:

(a) Which of the following financing option should the company adopt?
  (i) The acquisition of CHI Limited is entirely financed by debt.
  (ii) The acquisition is financed by issue of debt and equity in the ratio of 60:40. The equity is to be generated by the issue of right shares at Rs. 45 per share.

(b) What other matters should be considered and what impact these may have on the decision arrived in (a) above? ***(17 marks)***

(THE END)

The Institute of Chartered Accountants of Pakistan

Business Finance Decisions

Final Examinations – Winter 2010 December 8, 2010
Module F 100 marks - 3 hours

Q.1 (a) Briefly discuss the possible synergistic effects which are the primary motivation for most mergers and takeovers. ***(05 marks)***

(b) The board of directors of Platinum Limited (PL), a leading manufacturer of electrical goods, is considering to takeover Diamond Limited (DL), a competitor of an important product line, by offering seven ordinary shares for every six ordinary shares of DL.

The summarized statement of financial position and summarized income statement of the two companies for the latest financial year are given below:

Summarized Statement of Financial Position

	PL	**DL**
	Rupees in million	
Total assets	4,535	959
Shareholders equity		
Ordinary shares (Rs. 10 each)	900	192
Reserves	1,089	121
	1,989	313
Total liabilities	2,546	646
Total equity and liabilities	4,535	959

Summarized Income Statement

	PL	**DL**
	Rupees in million	
Turnover	3,638	901
Profit before tax	312	86
Tax	81	28
Profit after tax	231	58

The current price earnings ratios of PL and DL are 15 and 19 respectively.

In case of successful bidding, the directors envisage that:
- after tax savings in administrative costs would be Rs. 24 million per annum.
- the price earnings ratio of the merged company would be 18.
- the dividend payout ratio of PL would not be affected.

Required:
(i) Total value of the proposed bid based on PL's current share price.
(ii) Expected earnings per share and share price of PL following the successful acquisition of DL.
(iii) The board of directors is also considering the alternative to offer three zero coupon debentures (redeemable in 8 years at Rs. 100) for every 2 DL shares. PL can currently issue new 8 year loan at an interest rate of 11% per annum. Discuss whether this proposal is likely to be viewed favourably by DL's shareholders. ***(15 marks)***

Q.2 Silver Limited (SL) is a large manufacturing concern in Malaysia. It deals in four major product lines. As the financial controller of the company, you are faced with the following situations:

(I) SL has made arrangements to export leather shoes to a major customer in USA. It has been agreed that one consignment would be shipped in each quarter and payment thereof would be made at the end of the quarter. SL's sole supplier of leather is in Pakistan and it has also agreed to supply on 3 months credit. The estimated sales and purchases for the first two quarters of 2011 are as follows:

	Sales to US Customer	**Purchases from Pakistani Supplier**
First quarter ending March 31, 2011	USD 1,020,000	USD 775,000
Second quarter ending June 30, 2011	USD 1,224,000	USD 1,347,000

The management is considering to hedge the foreign currency transactions. In this regard SL's bank has provided the following information:

Exchange Rates	**USD 1**	
	Buy	**Sell**
Spot rate	MYR 3.030	MYR 3.110
3 months forward rates premium	MYR 0.071	MYR 0.073
6 months forward rates premium	MYR 0.160	MYR 0.164

Interest Rates	**Lending**	**Borrowing**
MYR	6.6% p.a.	7.9% p.a.
USD	5.8% p.a.	7.2% p.a.

(II) SL has sold one of its product lines for MYR 15 million. The proceeds are expected to be received at the end of February, 2011. SL plans to use these funds in September, 2011 for one of its major expansion project. Consequently, the management wants to invest this amount in a fixed deposit account for a period of six months at 6% per annum.

The management is considering to hedge the interest rate risk by using interest rate futures. The current price of March six months' futures is 95.50 whereas the standard contract size is MYR 3 million.

Required:

(a) Determine which of the following options would be more beneficial to the company:
  (i) Hedging through forward cover
  (ii) Hedging through money market

(b) Determine how beneficial would it be for SL to use interest rate futures to hedge the interest rate risk if at the end of February, 2011 interest rates:
  (i) fall by 0.75% and future price moves by 1%; or
  (ii) rise by 1% and future price moves by 1%. ***(20 marks)***

Ignore transaction costs.

Q.3 Iron Limited (IL) is considering four projects for investing the excess liquidity available with the company. Each project will last for three years. The details are as follows:

	Projects			
	A	**B**	**C**	**D**
Net annual cash flows (Rs. in millions)	85	87	90	95
Expected return	16%	14%	17%	15%
Standard deviation of returns	20%	18%	27%	30%
Estimated correlation of returns with market returns	0.82	0.85	0.91	0.78

The current market returns are 14% with a standard deviation of 16%. Risk free rate of return is 10%.

Required:

(a) Evaluate which of the above projects may be selected for investment by Iron Limited. Rank the selected projects in order of preference.

(b) Determine the overall systematic risk that would be associated with the above investments if IL decides to invest in all the projects selected in (a) above. ***(13 marks)***

Q.4 Gold Limited (GL) manufactures textile machinery. The management has explored opportunities in various South Asian countries and is optimistic that there is considerable demand for GL's machines in the region. However, exports from Pakistan are not financially viable on account of higher input costs. Therefore, GL intends to establish a subsidiary either in Bangladesh or in Sri Lanka. Based on initial studies, the management projections, **at current prices,** are as follows:

Alternative 1: Subsidiary in Bangladesh (SIB)

(i) SIB would require immediate outlay of BDT 110 million for the construction of a new factory, i.e. BDT 80 million for acquisition of land and BDT 30 million as advance payment for construction of factory. Balance payment of BDT 75 million would be made in year 1.

(ii) The installation and commissioning of plant and machinery would be completed in year 1 at a cost of BDT 115 million.

(iii) The estimated working capital requirement in year 1 and year 2 is BDT 20 million and BDT 110 million respectively.

(iv) Production and sales in year 2 are estimated at 3,000 units and in years 3-5 at 4,000 units per annum. The average price in year 2 is estimated at BDT 300,000 per unit.

(v) Total variable costs in year 2 are expected to be BDT 165,000 per unit.

(vi) Fixed overhead costs excluding depreciation, in year 2 are estimated at BDT 350 million.

(vii) Allowable tax depreciation on all fixed assets except land is 20% per annum on a reducing balance method.

(viii) Applicable tax rate on SIB is 35%.

Alternative 2: Subsidiary in Sri Lanka (SISL)

(i) The investment would involve the purchase of an existing factory via a takeover bid. The estimated cost of acquisition is LKR 90 million.

(ii) Additional investment of LKR 18 million in new plant and machinery and LKR 36 million in working capital would be required immediately after the acquisition.

(iii) Pre-tax net cash flows (including tax savings from depreciation) are estimated at LKR 27 million in year 1 and LKR 35 million in year 2.

(iv) Applicable tax rate on SISL is 25%.

All the above projections are based on current prices and are expected to increase annually at the current rate of inflation. Inflation rates for each of the next five years in Pakistan, Bangladesh and Sri Lanka are expected to be 12%, 10% and 8% respectively.

The after-tax realizable value of the investment at the prices prevailing in year 5, is estimated at BDT 145 million and LKR 115 million in case of Bangladesh and Sri Lanka respectively.

Current exchange rates are as follows:

BDT /PKR	Rs. 0.83 – Rs. 0.85
LKR/PKR	Rs. 1.31 – Rs. 1.34

GL's cost of equity is 18%. It would finance the investment by borrowing at 12% per annum in Pakistan after which its debt equity ratio would be approximately 30:70.

The tax rate applicable to GL in Pakistan is 30%. Pakistan has double taxation treaty agreements with both the countries.

Required:

Evaluate which of the two subsidiaries (if any) should be established by GL. (***Assume that tax in all countries is payable in the same year and that all cash flows arise at the end of the year)*** ***(24 marks)***

Q.5 The management of Copper Industries Limited (CIL) intends to raise financing for the company's expansion project but is concerned about the impact of proposed additional financing on the company's existing capital structure and values.

The management is aware that there is an inverse relationship between interest cover and cost of long term debt and the following relationship exist between interest cover and cost of debt:

Interest cover (times)	> 8	6 to 8	4 to 6	2 to 4
Cost of long term debt	8%	9%	11%	13%

The management has found that the following two debt equity ratios are usually prevalent in the industry and are also acceptable to the company's banker.

(i) 70% equity, 30% debt by market values
(ii) 50% equity, 50% debt by market values

The latest audited financial statements depict the following position:

	Rs. in million
Net profit before tax	272
Depreciation	50
Interest @ 9%	55
Capital expenditure	150

Market value of existing equity and debt is Rs. 825 million and Rs. 550 million respectively. CIL's equity beta is 1.25 and its debt beta may be assumed to be zero. The risk-free rate of return and market return are 7% and 15% respectively. Applicable tax rate is 35%.

Assume that:
- ***CIL's cash flow growth rate would remain constant and would not be affected by any change in capital structure.***
- ***Market value of the company at the existing weighted average cost of capital, after the proposed expansion, would remain the same.***

Required:
(a) Calculate the following under the current as well as each of the above debt equity ratios being considered by the company:
(i) Weighted average cost of capital
(ii) Value of the company

(b) Compare the three options and give recommendations in respect thereof to the company.
(23 marks)

(THE END)

BUSINESS FINANCE DECISIONS

(MARKS 100)
(3 hours)

Q.1 YB Pakistan Limited is engaged in the manufacture of pharmaceutical products. On April 1, 2010 the Board of Directors approved a plan which envisages an investment of Rs. 300 million on account of capital expenditures over the next five years. Following information has been extracted from the management accounts of the company which have been prepared in respect of the year ended March 31, 2010:

	Rs. in millions
Sales revenue	190.00
Cost of goods sold	110.00
Operating expense	30.00
Interest expense	15.00
Property plant and equipment	100.80
Shareholders' equity	135.00

The following information is also available:

(i) Annual outlay of investment in next five years is estimated to be 13%, 16%, 22%, 22% and 27% respectively of the total amount.

(ii) The company expects that the operating profit (excluding depreciation) generated by the existing assets will grow at the rate of 12% per annum. In addition, the new investments would yield pre-tax cash flows of 15% per annum.

(iii) The company follows a policy of maintaining a debt equity ratio of 40:60.

(iv) Interest rates on existing and future long term debts are expected to be the same and are not expected to change during the next five years. The current debt is repayable at the end of five years. All future debts would be repayable on or after six years.

(v) The company has a short term financing facility of Rs. 50 million. The outstanding balance as of March 31, 2010 was Rs. 20 million. Assume that interest @ 16% is payable at the end of each year on the closing balances.

(vi) The company invests its surplus funds into highly secured investments which yield 8% per annum.

(vii) The additional working capital requirements are estimated at 10% of additional capital expenditures.

(viii) Accounting depreciation is calculated at the rate of 15% of written down value. It is equal to tax depreciation and therefore is allowable for tax purposes. The current corporate tax rate is 40%. To promote corporate business, the Government has announced an annual reduction of 2% in tax rate till it is reduced to 34%.

(ix) The company follows the residual dividend policy for payment of dividends.

You may assume that all cash flows are incurred at year end.

Required:

(a) Calculate the expected dividend for the next five years in accordance with the existing payout policy of the company.

(b) Ascertain whether the company would be able to pay off its existing loan at the expiry of five years. **(22)**

Q.2 MK Limited is presently considering a proposal to acquire 100 % shareholdings of ZA Limited which is engaged in the same business. The financial data extracted from the latest audited financial statements and other records of the two companies is presented below:

	MK		ZA
	-----Rs. in million-----		
Sales revenue	12,000		8,460
Operating expense excluding depreciation	(7,695)		(4,905)
Depreciation	(1,305)		(990)
Profit before interest and tax	3,000		2,565
Interest	(644)		(1,494)
Profit after interest	2,356		1,071
Taxation (35%)	(825)		(375)
Profit after taxation	1,531		696
Dividend payout	50%		55%
Capital expenditure during the year (Rs. in million)	700		650
Debt ratio	40%		55%
Market rate of interest on debentures	6.5%		7.5%
Number of shares issued (in million)	100		90
Market price of share (Rs.)	20		12
Equity beta	1.1		1.3

The following further information is available:

(i) Both the companies follow the policy of maintaining stable dividend payouts and debt ratios.

(ii) Annual growth in sales, operating expenses, depreciation and capital expenditures are estimated as under:

	Year 1 – 2	Year 3 onward
MK	4.0%	5.0%
ZA	5.5%	5.0%

(iii) Accounting depreciation is the same as tax depreciation.

(iv) The prevailing risk-free rate of return is 8% whereas the market return is 13%.

The key aspects of the feasibility study carried out by MK are as follows:

- MK would issue 7 shares in exchange for 9 shares of ZA.
- A rationalization of administrative and operational functions after takeover would reduce operating expenses including depreciation, from 75% to 70% of total sales.
- The annual growth in sales, operating costs, depreciation and capital expenditures in the merged company would be as follows:

Year 1 – 2	5.0%
Year 3 onward	5.5%

Required:

(a) Based on an analysis of Free Cash Flows, calculate the value of MK Limited, ZA Limited and the company which would be formed after the merger.

(b) Estimate the synergy effect which is expected to accrue to MK Limited on account of acquisition of ZA Limited. **(25)**

Q.3 (a) Briefly explain the Adjusted Present Value (APV) method and identify its advantages over the Weighted Average Cost of Capital method. **(04)**

(b) NS Technologies Limited is in the business of developing financial software. The directors of the company believe that the scope of future growth in the software sector is limited and are considering to diversify into other activities. An option available with the company is to sign an eight year distribution contract with a leading manufacturer of telecommunication equipments.

Some of the important information related to the above proposal is as follows:

(i) Total investment is estimated at Rs. 600 million. It includes developing the necessary infrastructure, purchase of equipment and working capital requirements.
(ii) The investment is expected to generate pre-tax net cash flows of Rs. 180 million per year.
(iii) Presently NS is paying interest @ 9% on its long term debt.
(iv) NS maintains a debt equity ratio of 55:45 whereas its equity beta is 0.9.
(v) Average debt ratio, overall beta and debt beta of telecommunication equipment distribution segment is 40%, 1.5 and 1.3 respectively.
(vi) The market rate of return is 14% whereas yield on one year treasury bills is 6%.
(vii) Costs associated with the issuance of debt and equity instruments are estimated at 1% and 3% respectively.
(viii) Tax rate applicable to the company is 35%. Tax is paid in the same year as the income to which it relates.
(ix) In case the contract is not renewed upon expiry, after tax cash flows of Rs. 90 million would be generated from disposal of allied resources.

Required:
Evaluate the above proposal using the APV method. **(12)**

Q.4 DS Leasing Company Limited has been approached by BP Industries Limited, with a request to arrange a 4-year lease contract in respect of a state of the art machine. The cost of machine is Rs. 20 million and the expected useful life is 4 years. The residual value at the end of lease term is estimated at 10% of cost.

DS would finance the purchase of machine by borrowing at 16% per annum. The interest would be payable annually and the principal amount would have to be repaid in four equal annual installments commencing from the end of first year.

DS provides free-of-cost maintenance services for all its leased assets. These services are provided by the company’s Maintenance Department whose costs are mostly fixed. If BP acquires this service from any other vendor, it would have to pay an annual fee of 3% of the cost of machine. Insurance cost will be borne by BP and is estimated at 4% of the cost of machine.

The tax rate applicable to both companies is 35% and the tax is payable in the next year. Allowable initial and normal deprecation on the machine is 25% and 10% respectively. The weighted average cost of capital of DS and BP are 18% and 20% respectively.

Both companies follow the same financial year. It may be assumed that the purchase would be finalized on the last day of the financial year.

Required:
(a) Calculate the annual rental (payable in advance) which DS should charge in order to break even on the lease contract. **(08)**
(b) Assume that BP has the following two options for financing the cost of machine:
 (i) DS has offered to lease the machine at an annual rental of Rs. 7 million, payable in advance.
 (ii) EFT Bank has offered to finance the machine at 18% per annum. The loan including interest would be repayable in 4 equal annual installments to be paid at the end of each year. Insurance costs would be borne by BP.

 Determine which course of action BP should follow. **(12)**

Q.5 The Directors of PSD Engineering Limited, a listed company, are planning to raise Rs. 100 million for a new project. They are considering two possible options of fund raising. The first is to make a two-for-five right issue of ordinary shares priced at Rs. 12.50 per share. The second option is to issue 9% Term Finance Certificates (TFCs) at par, redeemable in 2020.

The following information has been extracted from the financial statements of PSD for the year ended March 31, 2010:

	Rs. in million
Issued ordinary shares Rs. 10 each	200
Retained earnings	390
	590
10% TFCs at par, repayable in 2012	350
	940

The shares of the company are currently traded at Rs. 16 per share. The profit before interest and taxation of PSD for the year ended March 31, 2010 is Rs. 95 million.

It is expected that the right issue will not affect PSD's current price earnings ratio. However, the issue of TFCs would result in fall in price earnings ratio by 30%.

The tax rate applicable to the company is 35%.

Required:

(a) Make appropriate calculations in each of the following independent situations:

(i) Assuming a right issue of shares is made, calculate:
- the theoretical ex-rights price of an ordinary share.
- the value of the right. **(03)**

(ii) Assuming the market is strong form efficient and it is expected that new project would generate positive net present value of Rs. 96 million. Calculate the theoretical ex-right price in this case. **(02)**

(iii) Assuming that the new project would increase the company's profit before interest and tax for the next year by 10%. Calculate the price of an ordinary share in one year's time under each of the two financing options. **(09)**

(b) Briefly discuss why issue of term finance certificates is expected to result in fall in price earnings ratio. **(03)**

(THE END)

THE INSTITUTE OF CHARTERED ACCOUNTANTS OF PAKISTAN

Final Examinations Winter 2009

December 9, 2009

BUSINESS FINANCE DECISIONS

(MARKS 100)
(3 hours)

Q.1 Attock Index Tracker Fund (AITF) is an open-end mutual fund and was incorporated in 2004. However, since inception, its performance has remained unimpressive and it has generally been outperformed by KSE-100 index.

You have recently joined AITF as its Fund Manager and have been asked by the management to review the current composition of the portfolio. Details relating to the shares currently held in the portfolio are as follows:

Name of company	Market price per share	No of shares	Standard deviation	Covariance	Price forecast after one year	Dividend per share next year
	Rupees	in 000			Rupees	Rupees
A	25	150	0.150	0.024	27	2.00
B	15	230	0.240	0.039	17	1.00
C	46	190	0.160	0.044	52	2.50
D	106	50	0.320	0.033	111	4.00
E	75	100	0.190	0.018	85	2.00
F	114	120	0.220	0.041	125	3.00
G	239	60	0.190	0.032	220	5.50
H	156	80	0.210	0.040	168	3.00
I	145	35	0.180	0.034	170	2.50
J	67	45	0.220	0.033	75	1.00

Following information is also available:

(i) The average market return of the KSE-100 Index companies is 12% and the standard deviation is 18%.
(ii) The risk free rate of return is 8%.
(iii) The correlation between the market value of securities held by AITF and KSE-100 Index is 0.737.
(iv) The average return on AITF's shares is 11% with standard deviation of 22%.

Required:
(a) Compute the AITF's systematic risk and assess the extent to which AITF has matched the performance of KSE-100 Index.
(b) Determine whether AITF achieves the return according to its risk profile.
(c) Identify those shares in AITF's portfolio which are expected to underperform and should be removed.
(d) Compute the revised beta of AITF i.e. after excluding the underperforming shares. Assume that cash generated from disposal of underperforming shares will be used to buy the remaining shares in proportion to their current holdings. **(20)**

Q.2 Kohat Limited (KL) is considering to set-up a plant for the production of a single product IGM3. The initial capital investment required to set up the plant is Rs. 15 billion. The expected life of the plant is only 5 years with a residual value of 20% of the initial capital investment. The plant will have an annual production capacity of 1.0 million tons.

A local group has offered to purchase all the production for Rs. 8,000 per ton in year 1 and thereafter at a price to be increased 5% annually. Other relevant information is as under:

(i) In year 1, operating costs (other than wages and depreciation) per annum would be Rs. 2,000 per ton. They are expected to increase in line with Producer Price Index (PPI). Annual wages would be Rs. 1.0 billion and are linked to Consumer Price Index (CPI).
(ii) KL's cost of capital for this project, in real terms is 6%. General inflation rate is 11%.
(iii) The tax rate applicable to the company is 30% and the tax is payable in the same year. The company can claim normal tax depreciation at 20% per annum under the reducing balance method.

Price indices of the last six years are given below:

Year	2003	2004	2005	2006	2007	2008
PPI	107	119	130	142	160	175
CPI	112	125	139	155	173	195

The costs linked to the above indices are expected to grow at their historic compound annual growth rate.

Required:
Advise whether KL should invest in the project. **(14)**

Q.3 Tarbella Enterprises (Pvt) Limited (TEPL) is the manufacturer and supplier of chemical X. Due to an internal conflict, the directors of TEPL have offered to sell the company to Chakwal Limited (CL) which is one of its largest customers.

CL has hired you to determine the value at which it would be feasible for it to acquire TEPL. The relevant information is as follows:

(i) CL would consider TEPL as a separate cash generating unit and it will have a useful life of five years. The normal capacity of TEPL's plant is 22,000 tons.
(ii) During the year ended June 30, 2009, CL consumed 15,000 tons of chemical X.
(iii) Summary of TEPL's profit and loss account for the year ended June 30, 2009 is as follows:

	Rs. in million
Sales (20,000 tons)	240
Variable costs	(80)
Fixed costs	(50)
Operating profit	110

(iv) CL's planning department has provided the following projections related to the next five years:
- CL's demand for chemical X would increase by 5% each year.
- The annual increase in the price of chemical X would be 10%.
- The variable costs per ton of production of chemical X would increase by 12% per annum.
- Fixed costs would increase by 8% each year.

(v) CL intends to use the entire production of chemical X for its internal use only.
(vi) CL maintains a debt equity ratio of 50:50. Its cost of debt and cost of equity is 14% and 20% respectively. Tax rate applicable to both the companies is 30%.

Required:
Compute the maximum price which CL may offer for the acquisition of TEPL. **(13)**

Q.4 The directors of Bannu Holdings Limited (BHL) have decided to sell off its wholly owned subsidiary, Ziarat Engineering Limited (ZEL). Following information has been extracted from the last audited financial statements of ZEL:

	Rs. in million
Sales	2,958
Less: Cost of sales	1,928
Gross Profit	1,030
Allocated expenditures of BHL	(255)
Operating expenses	(388)
Other income	216
Financial charges	(119)
Profit before tax	484
Tax @ 30%	(145)
Net profit	339

A team of executives and employees, lead by the CEO of ZEL is also interested in the acquisition of the subsidiary. They plan to form a new company, Sibbi Engineering (Private) Limited (SEL), which will acquire all the assets of ZEL. After intense negotiations the directors of BHL have finally agreed to sell ZEL to the employees, under the following terms and conditions:

(i) The value of ZEL will be Rs. 2,100 million.
(ii) BHL would pay off all the existing debts of ZEL.
(iii) BHL would acquire 10% shareholding in SEL.

The employees would invest Rs. 270 million in SEL in the form of equity. In order to arrange the balance amount, they intend to accept any one of the following offers:

I A commercial bank has offered a loan on the following terms:
   (i) Loan will carry markup @ KIBOR + 3% and would be payable annually. KIBOR is currently at 8%.
   (ii) The tenure of the loan would be 5 years and it would be repayable at maturity.
   (iii) SEL will have to comply with the following debt equity ratio:

Year	1	2	3	4 - 5
Debt equity ratio	75%	70%	60%	50%

   In case of failure to comply with the above condition, the bank would reserve the right to demand repayment of the entire amount within a period of 30 days.

II An investment bank is willing to provide a convertible loan to SEL. The loan carries interest at the rate of 10% per annum. The principal is repayable in four equal annual installments commencing from the end of year 2. The investment bank will have the option to convert the balance amount of loan into shares of SEL at Rs. 25 each and the conversion option will be exercisable at the commencement of year 4 or year 5. SEL would not be allowed to issue any dividend during the tenure of the loan.

SEL's revenues/expenses are expected to grow in the following manner:

(i) Gross profit would increase at the rate of 3% per annum.
(ii) Operating expenses would increase by Rs. 100 million in year 1 and thereafter @3% per annum.
(iii) 75% of the profit earned by SEL would be available in the form of cash, for repayment of debt. In the case of option 1, SEL plans to invest it in various schemes, till the loan becomes payable and consequently, the other income is expected to grow @ 10% per annum.

Required:

(a) Analyse the two financing options to evaluate whether SEL would be in a position to comply with the terms of the respective loans.
(b) Which offer should SEL accept and why? **(24)**

Q.5 Sajawal Sugar Mills Limited (SSML), a medium sized listed company, is planning to expand its production capacity. The management has estimated that the expansion would require an outlay of Rs. 300 million.

Following figures have been extracted from SSML's financial statements for the year ended June 30, 2009.

Statement of Financial Position

	Rs. in million
Paid up capital (Rs. 10 each)	400
Retained earnings	150
Non-current liabilities	600
Current liabilities	100
	1,250
Fixed assets	1,100
Current assets	150
	1,250

Statement of Comprehensive Income

	Rs. in million
Net profit after tax	125
EPS	3.13

To finance the expansion, SSML is considering a right issue. However, the management of SSML wants to maintain its existing debt equity ratio, return on total assets ratio and dividend payout percentage. Moreover, they wish to keep the ex-right price to be the same as current market price.

SSML follows a policy of retaining 30% of its profits. The current market price of its shares is Rs. 20 whereas its share price beta is 1.23. Presently, market return is 16% whereas yield on one year treasury bills is 12%. Market is assumed to be strong form efficient.

Required:
Under the circumstances referred to in the above situation, what should be:
(a) The right ratio
(b) The right offer price
(c) Theoretical ex-right price
(d) Value of each right **(17)**

Q.6 Qalat Industries Limited (QIL) is a medium sized company which carries out extensive trading (imports as well as exports) with various German companies. The management of QIL is concerned about the recent fluctuations in the exchange rate parity between Pak Rupee (Rs.) and Euro (€) and is considering to hedge the following transactions which it expects to undertake, on December 15, 2009:

Nature of transaction	Amount	Due date of payment / receipt
(i) Import of IT equipment	€ 223,500	Jun. 15, 2010
(ii) Export of sports goods	€ 98,500	Mar.15, 2010
(iii) Export of medical instruments	€ 77,000	Jun. 15, 2010
(iv) Import of machinery	Rs. 22,500,000	Mar.15, 2010

Other relevant information is as follows:

(i) According to QIL's bank the following exchange rates are expected to prevail on December 15, 2009:

	€1	
	Buy	**Sell**
Spot	Rs. 124.22	Rs. 124.52
3 months forward	Rs. 123.62	Rs. 123.96
6 months forward	Rs. 123.21	Rs. 123.54

(ii) Interest rate on borrowing and lending in respective currencies are as follows:

	Rs.	**€**
3-months / 6 months borrowing	11%	5%
3-months / 6 months lending	6.5%	3%

Required:

(a) Calculate the net rupee receipts/payments that QIL should expect from the above transactions under each of the following alternatives:
- (i) Hedging through forward cover
- (ii) Hedging through money market

(b) Determine which would be the better alternative for QIL.

(Ignore transaction costs) **(12)**

(THE END)

THE INSTITUTE OF CHARTERED ACCOUNTANTS OF PAKISTAN

Final Examinations Summer 2009

June 3, 2009

BUSINESS FINANCE DECISIONS

(MARKS 100)
(3 hours)

Q.1 ABC Limited is engaged in manufacture and sale of spare parts of heavy vehicles. Presently, the company is planning to raise Rs. 2,000 million to replace its existing production machines with the latest machines. All machines will be imported from UK. The company is considering the following two options to raise the finance:

(I) The company can issue Term Finance Certificates (TFCs) in the local market for a period of three years at a rate of 6-months KIBOR plus 1.5%. Interest and principal repayment will be made in six semi-annual installments. The company will be required to pay 0.25% commitment fee at the time of raising the TFCs.

(II) UK Ex-Im bank has offered to provide the required amount for a period of three years at a rate of 6-months LIBOR + 2.5%. Principal and interest will be payable in six semi-annual installments.

It is anticipated that interest rates will vary in line with inflation forecasts in each country. The forecasted interest rates expected at the beginning of half year for the next three years are as follows:

	6-months KIBOR	6 months LIBOR
July 2009	13.00%	5.00%
January 2010	12.50%	5.25%
July 2010	12.00%	5.50%
January 2011	11.50%	5.75%
July 2011	11.00%	6.00%
January 2012	10.50%	6.25%
July 2012	10.00%	6.50%

It is expected that the exchange rate on July 01, 2009 would be £1 = Rs. 105. The company's cost of capital is 13%.

Required:
Which of the two options would you recommend to the management? Show all relevant calculations. **(20)**

Q.2 UVW Rental Services, a partnership concern, is in the business of providing power back-up solutions to its corporate clients. At present, it is the policy of the company to replace the old power generators with the new ones after every three years.

During a recent management meeting, the operation manager informed that a 350KVA generator has reached its replacement period. He suggested that since the replacement cost of this generator has significantly increased due to depreciation of rupee, the company should not dispose of the generator at the end of its replacement period and rather get it overhauled and continue.

Following information relating to the generator is available:

(i)

Cost	Written Down Value	Estimated Cost of Overhauling	Current Disposal Value	Replacement Cost
--------------------------------	---Amount in Rupees---			------------------------------------
3,900,000	1,750,000	2,200,000	945,000	5,250,000

(ii) It is expected that after overhauling:
- the generator can be used for another two years. However, running cost of overhauled generator would be Rs. 440 per hour which is 10% higher in comparison with the running cost of the new generator.
- the overhauled generator would be sold after two years at a value of 15% of current replacement cost while the new generator is expected to fetch 25% of current replacement value, after three years.

(iii) The company rents out the generator at Rs. 2,000 per hour and such generators are hired for approximately 2,500 hours per annum, irrespective of their age.

(iv) The company's cost of capital is 17% per annum before adjustment for inflation. The rate of inflation is 8%.

(v) The company receives all payments after deduction of tax at the rate of 6% which is considered full and final settlement of it's tax liability.

Required:

(a) Advise whether the management should replace the generator or overhaul and continue to use the existing one.

(b) Calculate the % change in estimated cost of overhauling at which the management would be indifferent between the two options. **(17)**

Q.3 DEF Securities Limited (DEF) is a medium size investment company. During the month of February 2009, the Research Department of DEF forecasted an increase in oil prices by June 2009 which would have a positive impact on the share prices of oil marketing companies and negative impact on the share prices of power generation companies. Based on this research, the company entered into the following transactions on April 1, 2009:

(I) Purchased a three month American call option of 100,000 shares of Silver Petroleum Limited (SPL), an oil marketing company, at Rs. 3 per share. The exercise price is Rs. 155 per share.

(II) Purchased a three month European put option of 5,000,000 shares of Diamond Electric Supply Corporation Limited (DESC), a power generation company, at Re. 0.50 per share. The exercise price is Rs. 3.50 per share.

However, when the price of oil actually increased on May 21, 2009, DESC revised its power tariff upward while due to tough competition SPL's margins are expected to decline. As a result, the company feels that it is now advisable to reconsider the situation. While evaluating various options, the management has gathered the following information:

(i) As of June 1, 2009, the ready market price per share and one month future price per share were as follows:

	Ready market prices	1-month future prices
SPL	Rs. 170 per share	Rs. 173 per share
DESC	Rs. 4.25 per share	Rs. 4.35 per share

(ii) DEF can obtain finances at the rate of KIBOR plus 2%. Presently, the rate of KIBOR is 12.5%.

(iii) Transaction costs are immaterial.

Required:

Based on the available information, recommend the best strategy to the management. **(12)**

Q.4 MNO Chemicals Limited is a fertilizer company. The company is planning to diversify into the food business and has identified two companies, PQ (Pvt.) Limited and RS Limited (a listed company), as potential target for acquisition. MNO Chemicals Limited intends to buy one of these companies in a share exchange arrangement.

Extracts from the latest financial statements of the three companies are given below:

STATEMENT OF FINANCIAL POSITION

	MNO Chemicals	PQ (Pvt.) Limited	RS Limited
	---------Rupees in millions-----------		
Share capital (Rs 10 each)	1,500	800	1,200
Retained earnings	700	300	350
TFCs	1,000	400	500
Current liabilities	300	100	200
	3,500	1,600	2,250
Non-current assets	3,000	1,400	1,800
Investment held for trading	-	-	300
Current assets	500	200	150
	3,500	1,600	2,250

STATEMENT OF COMPREHENSIVE INCOME

	MNO Chemicals	PQ (Pvt.) Limited	RS Limited
	---------Rupees in millions-----------		
Sales	2,500.00	800.00	1,200.00
Operating profit before interest, depreciation and income tax	1,250.00	400.00	540.00
Interest	(100.00)	(48.00)	(55.00)
Depreciation	(450.00)	(180.00)	(270.00)
Other income	200.00	20.00	45.00
Net profit before tax	900.00	192.00	260.00
Tax @ 35%	(315.00)	(67.20)	(91.00)
Net profit	585.00	124.80	169.00
Dividend payout (50%:70%:50%)	292.50	87.36	84.50

Additional information:

(i) All companies maintain a stable dividend payout policy.

(ii) It is estimated that earnings of PQ and RS will grow by 4% and 5% respectively.

(iii) The risk free rate of return is 8% per annum and the market return is 13% per annum. The market applies a premium of 300 basis point on the required returns of unlisted companies.

(iv) RS Limited's equity beta is estimated to be 1.20.

(v) Synergies in administrative functions arising from merger would increase after tax profits by 5% in the case of PQ and 6% in the case of RS.

Required:

Which of the two companies should be acquired by MNO Chemicals Limited? Show necessary computations to support your answer. **(21)**

Q.5 GHI Limited is an all equity financed company with a cost of capital of 14%. For last several years, the company has been distributing 70% of its profits to the ordinary shareholders and is expected to continue to do as in future. The company plans to enter into a new line of business. Taking it as an opportunity to reduce the cost of capital, it is considering to issue debt to finance the expansion. The Corporate Consultant of GHI has provided the following industry data relating to different levels of leverage:

Debt/Assets	0%	10%	40%	50%
Cost of Debt	-	8%	10%	12%
Equity Beta	1.20	1.30	1.50	1.70

The following information is also available:

(i) The estimated value of assets after the investment in new line of business would be Rs. 250 million.
(ii) The forecasted revenue for the next year is Rs. 200 million.
(iii) Fixed costs for the next year are estimated at Rs. 40 million whereas variable costs will be 60% of the revenue.
(iv) The par value of GHI's ordinary share is Rs. 10.
(v) The tax rate applicable to the company is 35%.

The rate of return on 1-year Treasury Bills is 6% and the market return is 10%.

Required:
Advise the optimal capital structure which GHI Limited should formulate. Show all relevant workings. **(15)**

Q.6 JKL Phone Limited is a cellular service provider. The Marketing Director has recently proposed a marketing strategy which envisages the introduction of a new package for pre-paid customers, to gain market share. He has carried out a market research and suggests that the call rates forming part of the proposed package should either be Re. 0.75 or Re. 1.00 or Rs. 1.25 per minute.

Based on market research, sales demand at different levels of economic growth is estimated as follows:

	Probability	**Call Rates**		
		Rs. 0.75	**Re. 1**	**Rs. 1.25**
		----- Subscribers in million -----		
Recession	0.30	0.70	0.50	0.30
Moderate	0.50	0.80	0.60	0.40
Boom	0.20	0.90	0.80	0.60

He foresees that the average airtime usage per subscriber would be 1800 minutes or 1600 minutes with a probability of 40% and 60% respectively. In order to cater to the increased subscriber base, the company would need to commission new cell sites, details of which are as follows:

No. of subscribers (in million)	**Cost of new sites (Rs. in million)**
Up to 0.5 million	180.00
Between 0.5 – 0.8 million	300.00
Between 0.8 – 1.0 million	540.00

It is assumed that the present customers of the company would continue to use the existing packages.

Required:
Evaluate the proposal submitted by the Marketing Director and advise the most suitable call rates. **(15)**

(THE END)

THE INSTITUTE OF CHARTERED ACCOUNTANTS OF PAKISTAN

Final Examinations Winter 2008

December 3, 2008

BUSINESS FINANCE DECISIONS

(MARKS 100)
(3 hours)

Q.1 Shoaib Investment Company Limited is a listed company having a share capital of Rs. 1,000 million consisting of 100 million shares of Rs. 10 each. It's net equity at book value, as of March 31, 2008 was Rs. 2,000 million. The company maintains a debt equity ratio of 70:30 based on market value. Long term debt constitutes 90% of total liabilities of the company. It is the policy of the company to invest 60% of its total assets in listed securities. The correlation between the market value of these listed securities held by the company and KSE-100 Index is 1.1. On March 31, 2008, the company's shares were traded at price to book value ratio (P/B ratio) of 1.4.

During the quarter April 1, 2008 to June 30, 2008, KSE-100 Index fell by 20%. This fall in Index also affected the market price of the company's shares and as of June 30, 2008, they were being traded at P/B ratio of 0.9. There was no significant change in the amount of liabilities and other assets of the company, during the quarter.

Required:

(a) Compute the amount of fresh equity required to be injected as of June 30, 2008 in order to maintain the debt equity ratio.

(b) The company has been approached by Mr. Alam, a large investor, who has offered to provide the required capital as computed in (a) above at a discount of 10% of market value. Compute the % holding of Mr. Alam in the company, if his proposal is accepted. **(13)**

Q.2 Waseem Limited is engaged in manufacture and sale of consumer products. It's management is in the process of developing the sales plan for the next year. The Sales Director is of the view that the main hurdle in increasing the sales is the availability of finance.

The summarized Balance Sheet as of November 30, 2008 is shown below:

	Rs. in million
ASSETS	
Fixed assets	950
Current assets	730
	1,680
LIABILITIES AND EQUITIES	
Ordinary share capital	250
Retained earnings	450
	700
Long term debts	465
Current liabilities	515
	1,680

Following additional information is available:

(i) It has been established from the company's past record that any increase in sales require an investment of 140% of the additional sales amount, in inventories and accounts receivable. Further, the accounts payable of the company also increase by 25% of the additional sales amount.

(ii) The current sales of the company is Rs. 1,100 million while the net profit after tax is 10% of sales.

(iii) It is the policy of the company to distribute 20% of its profit after tax among the shareholders of the company.

Required:

Assuming that you are the Chief Financial Officer of the company, advise the management on the following:

(a) How much additional finance would be required to achieve 20% increase in sales in the next year?

(b) What would be the maximum growth in sales that the company can achieve if:
- external finances are not available?
- the additional financing is limited to an amount which will maintain the existing debt equity ratio? **(14)**

Q.3 Imran Limited wants to borrow Rs. 70 million for two years with interest payable at six monthly intervals. Due to recent hike in inflation, the company expects that the rate of interest is likely to rise over the next 2 years. The company can borrow this amount from a local bank at a floating rate of KIBOR plus 2% but wants to explore the use of swap to protect it from any interest rate increase, during the next two years.

Another bank has offered the company that it will be willing to receive a fixed rate of 11% in exchange for payments of six month KIBOR.

Required:

(a) Calculate the six monthly interest payments if the swap arrangement is in place.

(b) Calculate the net amount receivable/payable by each party to the swap at the end of the first 6 months if:
- KIBOR is 13.5%.
- KIBOR is 9%. **(10)**

Q.4 Hafeez Ltd is planning to bid for a contract to supply a machine under an operating lease arrangement, for 5 years. The terms of proposed contract include a special arrangement whereby the supplier / lessor will have to operate and maintain the machine, during the term of lease. Hafeez Ltd is required to quote a consolidated annual fee consisting of lease rentals and operating changes which shall be payable in arrears. The following relevant information is available:

(i) The cost of machine is Rs. 50 million and the expected useful life is 10 years. The residual value at the end of five years is estimated to be 25% of the cost of machine.

(ii) Operating cost for the first year is estimated at Rs. 6 million and is expected to increase at the rate of 10% per annum.

(iii) The tax rate applicable to the company is 35% and the tax is payable in the same year. The company can claim initial and normal depreciation at 25% and 10% respectively under the reducing balance method.

(iv) The weighted average cost of capital of the company is 14%.

Required:

(a) Calculate the annual consolidated fee to be quoted for the contract if the company's target is to achieve a Pre-tax Net Present Value of 15% of total capital outlay.

(b) Using the fee quoted above, calculate the project's internal rate of return (IRR) to the nearest percent. **(18)**

Q.5 Zaheer Ltd is a manufacturer of auto parts and is currently operating at below capacity due to slump in the demand for automobiles. The company has received a proposal from a truck assembler for supply of 40,000 gear boxes per annum for five years at Rs. 1,900 per gear box .

The cost of each gear box is as follows:

	Rupees
Material costs	800
Labour costs	500
Variable production overheads	150
Variable selling overheads	200
Fixed overheads (allocated)	150
	1,800

Company has already incurred a cost of Rs. 5 million on the preparation of technical feasibility. The additional cost for setting up the facility for this order would be Rs. 20 million.

The company maintains a debt equity ratio of 60:40. Cost of debt and cost of equity of the company is 16% and 19% respectively. The rate of tax applicable to the company is 30%.

Required:

(a) Evaluate whether the proposal is financially feasible for the company. Assume that revenue and cost of gear box will remain the same during the next five years.

(b) Carry out a sensitivity analysis to determine which of the following variables is most sensitive to the feasibility of the order:

- Material costs
- Labour costs
- Additional cost of setup **(20)**

Q.6 Javed Limited is a listed company and is engaged in the business of manufacture and export of garments. 100% of the company's revenue comes from exports which are taxable @ 1% under final tax regime.

An extract of the company's latest balance sheet as on June 30, 2008 is as follows:

	Rs. in million
Ordinary Share capital (Rs. 10 each)	100
Capital Reserves	40
Retained Earnings	85
	225
Term Finance Certificates (Rs. 100 each)	150
	375

Term Finance Certificates (TFCs) are due to be redeemed at par on June 30, 2010. TFCs carry floating mark up i.e. 6 months KIBOR plus 2% which is payable at half yearly intervals. Currently, TFCs with similar credit rating are available at six months KIBOR plus 1%.

During the year ending June 30, 2009, the company expects to post a net profit of Rs. 15 million. Cost of equity of a similar ungeared company is 19%. The shares of other companies in this sector are being traded at P/E ratio of 8. On June 30, 2008 the six monthly KIBOR was 14%.

Required:

Compute the Weighted Average Cost of Capital of the company as at July 1, 2008. **(13)**

Q.7 Mushtaq Limited is considering two possible investment projects. Both the projects have a life of one year only. The returns from new projects are uncertain and depend upon the growth rate of the economy. Estimated returns at different levels of economic growth are shown below:

Economic Growth (Annual Avg.)	**Probability of Occurrence**	**Returns (%)**		
		Project 1	**Project 2**	**Market**
1%	0.25	20	22	30
3%	0.50	30	28	25
5%	0.25	40	40	40

Risk free rate of return is 10%.

Required:
Evaluate the above projects using the Capital Assets Pricing Model. **(12)**

(THE END)

THE INSTITUTE OF CHARTERED ACCOUNTANTS OF PAKISTAN

Final Examinations   Summer 2008

June 4, 2008

BUSINESS FINANCE DECISIONS

(MARKS 100)
(3 hours)

Q.1 Mr. Faraz, a large investor, wants to invest Rs. 100 million in the stock market by developing a portfolio consisting of those shares which have a track record of good performance.

He contacted a Stock Analyst to identify such stocks. After a detailed study, the Stock Analyst recommended investments in shares of five different companies. Based on his recommendation, Mr. Faraz invested the amount on January 1, 2008. The relevant details are as follows:

Company	Investment (Rs.)	Price per Share on Jan 1, 2008 (Rs.)	Expected Dividend Yield	Standard Deviation	Covariance with KSE 100
A	15,000,000	60	3.50%	24%	2.10%
B	18,000,000	245	3.00%	22%	3.00%
C	22,000,000	225	2.50%	18%	2.60%
D	25,000,000	130	8.00%	15%	1.90%
E	20,000,000	210	5.00%	20%	2.80%

The stock analyst also informed him that the standard deviation and market return of the KSE-100 Index is 15% and 20% respectively. The risk free rate of return is 8%.

Required:

(a) Assuming that Mr. Faraz estimates his cost of equity by using the Capital Asset Pricing Model, compute the required rate of return on each security.

(b) As at December 31, 2008, compute the following:

- Estimated value of portfolio.
- Portfolio beta.
- Estimated total return on portfolio. **(18)**

Q.2 The Share Capital and Term Finance Certificates (TFCs) of Faiz Limited (FL) are listed on the Karachi Stock Exchange. An extract from the company's latest balance sheet as on December 31, 2007 is as follows:

	Rs. in million
Ordinary share capital of Rs. 10 each	400
Revenue reserves	350
Other reserves	150
	900
6% TFCs of Rs. 100 each	595
Short term loan – At KIBOR + 3%	80
Total debt and equity	1,575

6 years TFCs were issued on January 1, 2007. The coupon rate is 6% payable annually and the expected IRR is 10%. These TFCs were issued to fund a medium term project. The prevailing commercial rate for similar risk bonds is KIBOR plus 2%. The accounting policy of the company states that TFCs and other Held to Maturity Liabilities are carried at the amortized cost.

KIBOR is currently 9% which can be considered as risk free. FL has an equity beta value of 1.6 with market equity premium of 6.25%. The rate of income tax is 35%.

The dividend paid in the year 2007 was 12.5% and current year's dividend will be paid shortly. The dividend is expected to grow at a constant rate of 10%.

Required:
Compute the following as on December 31, 2007:
(a) Market price of Faiz Limited's Equity Shares and TFCs; and
(b) Weighted Average Cost of Capital. **(12)**

Q.3 Jalib Limited (JL) is planning to invest in a project which would require an initial investment of Rs. 399 million. The project would have a positive net present value of Rs. 60 million if funded only from equity. There are no internal funds available for this investment and the company wants to finance the project through debt. However, JL's existing TFCs contain a covenant that at any point in time, the debt to equity ratio in terms of Market Values should not exceed 1:1.

Currently, the market values of JL's equity (40 million shares are outstanding) and debt are Rs. 672 million and Rs. 599 million respectively. Markets can be assumed to be strong form efficient.

Required:
(a) Using Modigliani & Miller theory relating to capital structure, calculate the minimum amount of equity that the company will have to issue to comply with the TFCs' covenant.
(b) Advise the Board of Directors as regards the following:
- the right share ratio and the price at which right shares may be issued to raise the amount of equity as determined in (a) above, without affecting the market price of shares.
- What would be the impact on the market price of the company's shares if the required amount of equity is arranged by issue of shares at Rs. 14 per share? **(15)**

(Round off all the amounts to nearest millions and price computations to two decimal places)

Q.4 Mohani Limited (ML) has decided to acquire an additional machine to augment its production. The cost of the machine is Rs. 3,200,000 and the expected useful life of the machine is 5 years. The salvage value at the end of its useful life is estimated at Rs. 400,000.

To finance the cost of machine, the company is considering the following options:

(A) Enter into a leasing arrangement on the following terms:

Lease term	5 years
Security deposits	10% of the cost of machine
Insurance costs	payable by lessor
Installment	Rs. 860,000 payable annually at the beginning of the year.
Purchase Bargain Option	At the end of lease term against security deposit.

(B) Obtain a 5 year bank loan at an interest of 11% per annum. The loan including interest would be repayable in 5 equal annual installments to be paid at the end of each year.

The company plans to depreciate the machine using straight-line method. The insurance premium is Rs. 96,000 per annum. The corporate tax rate is 35%. For the purpose of taxation, allowable initial and normal depreciation is 50% and 10% respectively under the reducing balance method. The weighted average cost of capital is 14%.

Required:
Which of the two methods would you recommend to the management? Show all relevant calculations. **(18)**

Q.5 Hali Ltd. (HL) is listed on the stock exchange of Country X and has its operations in Country X and Country Y. The functional currency of both the countries is Rupee (Rs.). In the latest balance sheet of the company, net assets were represented by the following:

	Rupees in million
Ordinary share capital of Rs. 10 each	50
Retained earnings	170
	220
10% Debentures	30
10% Long term loans	40
	290

The current market price of ordinary shares and debentures are Rs. 90 per share and Rs. 130 per certificate respectively. In view of various legal and taxation issues, HL is considering a demerger scheme whereby two different companies, HX and HY will be formed. Each company would handle the operations of the respective country. Mr. Bader, a director of HL, has proposed the following demerger scheme:

(i) The existing equity would be split equally between HX and HY. New ordinary shares would be issued to replace the existing shares.
(ii) The debentures which are redeemable at par value of Rs. 100 in 2012, would be transferred to HX as these were issued in Country X.
(iii) The long term loan was obtained in Country Y and will be taken over by HY.

Demerger would require a one time cost of Rs. 17 million in year one, which would be split between the two companies equally. The finance director has submitted the following projections in respect of the demerged companies:

	HX			**HY**		
	Year 1	**Year 2**	**Year 3**	**Year 1**	**Year 2**	**Year 3**
	-------------------Rupees in million -------------------					
Profit before tax and depreciation	39	42	44	26	34	36
Depreciation	12	11	13	9	10	11

The projections for year 3 are expected to continue till perpetuity.

Accounting depreciation is equivalent to tax depreciation and therefore it is allowable for tax purposes. HX and HY will be subject to corporate tax at the rate of 30% and 25% respectively. Over the next few years, the rate of inflation in Country X and Country Y is expected to be 5% and 7% respectively.

Required:
Assuming your name is XYZ and HL's weighted average cost of capital is 18%, prepare a brief report for the Board of Directors discussing:
(a) the feasibility of the demerger scheme for the equity shareholders of Hali Limited, based on discounted cash flow technique. Your answer should be supported by all necessary workings.
(b) the additional information and analysis which could assist the Board of Directors in the process of decision making. **(20)**

Q.6 Momin Industries Limited (MIL) is engaged in the business of export of superior quality basmati rice to USA and EU countries. On May 15, 2008, MIL negotiated an order from TLI Inc. (TLI), a USA based company, for the supply of 10,000 tons of rice at the rate of US$ 2,000 per ton. Immediately after acceptance of the order by MIL, the Government imposed a ban on the export of rice. In view of the long standing relationship, MIL has offered to supply rice through Thailand which has been accepted by TLI. After due consultation with the Thai Company, MIL and TLI agreed to the following terms and conditions on May 31, 2008:

- The quantity and price per ton will remain unchanged.
- First consignment of 4,000 tons will be shipped in the last week of June 2008 and the balance will be shipped during the last week of July 2008.
- Shipment will be made directly to TLI.
- TLI will make payment to MIL after one month of shipment.

It was agreed with the Thai Company that MIL shall make the payment on shipment, at the rate of Thai Bhat 50,000 per ton.

MIL has a policy to hedge all foreign currency transactions in excess of Rs. 25 million by obtaining forward cover. MIL's bank has arranged the forward cover and advised the following exchange rates on May 31, 2008:

	Thai Bhat		**US $**	
	Buy	**Sell**	**Buy**	**Sell**
Spot	Rs. 2.33	Rs. 2.36	Rs. 65.12	Rs. 65.24
1 month forward	Rs. 2.30	Rs. 2.33	Rs. 65.45	Rs. 65.57
2 months forward	Rs. 2.28	Rs. 2.31	Rs. 65.77	Rs. 65.89
3 months forward	Rs. 2.26	Rs. 2.29	Rs. 66.10	Rs. 66.22

The bank charges a commission of 0.01% on each transaction.

Required:
Calculate the profit or loss on the above transaction under each of the following options:

(a) the shipments are made according to the agreed schedule;

(b) on July 31, 2008, the parties agree to delay the second shipment for a period of two months. The rates expected to prevail on July 31, 2008 are as follows:

	Thai Bhat		**US$**	
Spot – July 31, 2008	Rs. 2.29	Rs. 2.32	Rs. 65.61	Rs. 65.73
1 months forward	Rs. 2.27	Rs. 2.30	Rs. 65.84	Rs. 65.96
2 months forward	Rs. 2.25	Rs. 2.28	Rs. 66.16	Rs. 66.28
3 months forward	Rs. 2.23	Rs. 2.26	Rs. 66.38	Rs. 66.50

(c) the second shipment is cancelled on July 31, 2008. The exchange rates are expected to be the same as in (b) above. **(17)**

(THE END)

THE INSTITUTE OF CHARTERED ACCOUNTANTS OF PAKISTAN

Final Examinations Winter 2007

December 05, 2007

BUSINESS FINANCE DECISIONS

(MARKS 100)
(3 hours)

Q.1 Your company is planning to acquire the entire shareholding of Hamid Limited, an unlisted company. It has been suggested by on of the director to value the company using fresh cash flow analysis. Following are the extracts from the latest financial statements of Hamid Limited:

Profit and loss account for the year ended November 30, 2007

	2007 Rs. in million
Sales revenue	74,000
Cost of sales – excluding depreciation	(44,400)
Depreciation	(4,440)
Gross profits	25,160
Administrative costs – excluding depreciation	(7,881)
Depreciation	(925)
Amortization	(370)
Profit before interest and tax	15,984
Interest	(1,480)
Profit after interest	14,504
Taxation	(5,076)
Profit after tax	9,428

Extracts from Balance Sheet

	2007 Rs. in million	**2006 Rs. in million**
Receivables	1,700	2,030
Inventory	2,250	2,075
Other current assets	2,600	2,840
Current liabilities	1,800	2,120
Property, Plant & Equipment	14,000	12,500
Share Capital of Rs. 10 each	1,000	1,000

Bu considering the high growth of the company, it has been estimated that:

(i) Sales growth will be about 20% per annum for the next two years.
(ii) Cost of sales, excluding depreciation, will grown by 18% per annum.
(iii) Administrative costs excluding depreciation are expected to grow at the rate of inflation i.e. 8% annually.
(iv) Amortization represents an annual fixed charge @10% of the cost of an intangible asset acquired 2 years ago.
(v) Capital expenditures and working capital investments are expected to follow the same pattern as that of sale. Depreciation however, will grow by 25% per annum.

(vi) After two years, the free cash flows are expected to grow by only 5% per annum in perpetuity.
(vii) It is estimated that Hamid Limited's cost of equity is 17.15% and weighted average cost of capital is 15%.
(viii) The current coupon rate on the only debt of the company i.e. TFCs which are maturing in 8 years, is 11.84%. The market value of the debt is 118.35%.

Required:
Using the above estimates, work out the value of each ordinary share and total value of Hamid Limited. Assume that there will be no change in the debt equity ratio and tax rate in near future. **(15)**

Q.2 Zahid Limited is engaged in trading and manufacturing of electronic toys. In order to reduce the present net costs of financing the receivables and payables, the company is planning to introduce the following changes in its collection and payment policies:

- Offer 1% discount to its customers which is expected to shorten the average credit period by 30 days. Presently, the company sells 60% of its sales at 45-days credit.

- Avail the trade discount offered by the vendors of the company. Presently, the company buys finished goods on terms of 2/60, net 90 and raw materials on terms of 1/40, net 75 but the discount is not availed.

Presently, the company's working capital consists of the following:

	Rupees in '000'
Raw materials	5,000
Finished goods – Own manufactured	12,000
Finished goods – Purchased	14,000
Debtors	30,000
Cash balances	1,000
Trade creditors	(41,700)

The purchased finished goods inventory is maintained at an average level of 60 days' stock. At the end of the current year, the inventory of such stock is 25% higher as compared to the last year. Raw Material Turnover is approximately 24 times in a year.

The company finances its working capital through a running finance facility obtained from a local bank at 13% per annum.

Required:
Evaluate each of the above policies and give your recommendations. Support your answer with necessary workings. Assume a 360 day year. **(12)**

Q.3 Sajid Ltd has contacted a Hong Kong company (the supplier) for purchase of its annual requirement of 100,000 liters of chemical "X". The supplier has offered the following terms:

(i) The price per litre shall be HK$76.
(ii) Delivery shall be made thirty days after the placement of order.
(iii) Payment shall be made two months after the date of delivery.
(iv) The minimum value of the order shall be HK$3,800,000.
(v) If the company places an order exceeding HK$ 7,000,000, 3% bulk purchase discount shall be available.

The company estimated the following spot rates:

After three months	7.35/HK$
After six months	7.50/HK$
After nine months	7.70/HK$

Hong Kong $ is not directly quoted against Pak Rupees. Following forward rates are quoted in the market:

3 months forward rate PKR/US$	61.10 – 61.15
6 months forward rate PKR/US$	62.25 – 62.30
9 months forward rate PKR/US$	62.73 – 62.78
3 months forward rate HK$/US$	8.37 – 8.40
6 months forward rate HK$/US$	8.17 – 8.20
9 months forward rate HK$/US$	7.96 – 7.99

The company's cost of fund is 12% and its production is scheduled evenly throughout the year.

Required:
Analyse the following four options available with the company:
(i) Avail bulk discount with forward cover.
(ii) Avail bulk discount without forward cover.
(iii) Do not avail bulk discount and obtain forward cover.
(iv) Do not avail bulk discount not obtain forward cover. **(20)**

Q.4 Wajid Limited has acquired 10,000 convertible bonds of Abid Telecom Limited which is due for redemption after six years at the rate of Rs. 160 per bond. Interest is paid annually and the coupon interest rate is 11%. The required rate of return of Wajid Limited is 12% per annum.

The conversion option can be exercised at the end of third year at the rate of 5 ordinary shares per bond. Thereafter, this option will lapse. Following information has been obtained from the website of Karachi Stock Exchange:

	Face Value	**Market Value**
Bond	Rs. 100	Rs. 127
Share	Rs. 10	Rs. 25

Annual interest on the bonds has just been paid by the company. The dividend paid this year by the company was 18%. Capital gain is exempt from tax and the rate of income tax is 35%.

Required:
(a) Compute the minimum growth rate in the market price of the ordinary shares of Abid Telecom Limited at which you would advise Wajid Limited to hold the bonds and exercise the conversion options.

(b) What would be the best investment decision among the following options:
- hold the bonds until redemption.
- convert the bonds into shares if the growth rate worked out in part (a) is certain.
- sell the bonds now.

Support your decision with appropriate reasons. **(15)**

Q.5 Khalid Limited produces three products viz. Aay, Cee and Dee to a very limited number of customers. All the production of Cee is sold at Rs. 2,150 per unit. Presently, the plant which produces Dee is working at full capacity and there is a high demand for Dee in the market. The company has allocated separate spaces in the factory building for the production of each product.

The annual production and gross profit, for each of the next five years, has been estimated as under:

	Aay	Cee	Dee
	Rupees in thousand		
Sales	191,800	5,805	60,000
COST OF SALES			
Raw material	85,400	2,560	23,460
Labour	32,140	1,470	6,540
Factory overhead			
Depreciation – Building (allocated)	1,000	50	500
Depreciation – Plant (directly identified)	9,000	200	8,500
Depreciation – Others (directly identified)	840	24	750
Plant maintenance contract	600	225	600
Industrial waste management cost	2,700	50	1,200
Power	12,000	500	4,000
Others			
Variable	8,000	435	4,200
Fixed (directly attributable)	5,000	217	2,300
Fixed (Allocated)	1,600	81	732
Cost of sales	158,280	5,812	52,782
Gross Profit	**33,520**	**(7)**	**7,218**

Wahid Limited, a trust worthy customer, has requested the company to let out the space available for product Cee for one ear. He has proposed as follows:

- Wahid Limited will pay an agreed monthly rental which is to be determined by mutual consent. The space will be used to store newly imported machines worth Rs. 130,000 thousand.
- Wahid Limited can supply the annual requirement of Cee for the next five years at the rate of Rs. 2,100 per unit.
- Khalid Limited will be responsible to insure the machines.

Khlaid Limited is evaluating the offer and have worked out the following information:

(i) The existing plant and assets relating to Cee can be sold for Rs. 800 thousand. Gain on sale of machinery will be Rs. 50 thousand.

(ii) The cost of insuring the machines would be Rs. 650 thousand.

(iii) The space can also be used to produce Dee which will increase the production of Dee by 4%. However, it will require the following additional expenditures:

	Rupees in thousand
Cost of machines	3,500
Maintenance cost	12
Waste management cost	48
Power	160
Other costs	260

The machines will be depreciated in five years and will have a residual value of Rs. 700 thousand at the end of the fourth year.

(iv) The life of all existing plants and assets is five years with no residual value.

(v) The company uses discounted cash flow method to evaluate such offers. The discounting rate used by the company is 12%. The rate of income tax is 35%.

Required:
Calculate the minimum rent which may be acceptable to Khlaid Limited under each of the following options:
(a) Renting the premises for one year and thereafter continuing the production of Cee.
(b) Renting the premises for one year and thereafter start producing Dee. **(23)**

Q.6 Majid Limited having a share capital of 50 million shares of Rs. 10 each, is the distribution agent of many local and international products.

After tax profits and dividend for the last four years are shown below:

	2004	**2005**	**2006**	**2007**
	----------Rupees in thousands----------			
After tax profits	31,860	33,825	35,901	38,434
Dividend	27,000	29,160	31,493	34,012

The current cum dividend market price is Rs. 14.50. The risk fee rate is 8% and the market return is 15%. The company's overall beta, debt beta, and equity beta are 0.75, 0.20 and 0.80 respectively.

The company has recently invested Rs. 100,000 thousand to improve the warehousing structure and supply chain management. As a result, the directors expect the post tax profits ad dividend to increase by 20% for two years and then to revert to the company's existing growth rates.

The company estimates its cost of equity by using the Capital Assets Pricing Model.

Required:
(a) Estimate the value of the company's shares using the dividend growth model, under each of the following assumptions:
- the market is semi-strong form efficient.
- The market is strong form efficient.

(b) Would you advise the investors to buy the shares at the current price? **(15)**

(THE END)

THE INSTITUTE OF CHARTERED ACCOUNTANTS OF PAKISTAN

Final Examinations Summer 2007

June 6, 2007

BUSINESS FINANCE DECISIONS

(MARKS 100)
(3 hours)

Q.1 Your company has identified a number of profitable projects for investment, having good Internal Rate of Return projections. However, due to shortage of available funds, the company cannot invest in all the projects.

You have been assigned to determine the best strategy for capital rationing. Following information is available about the projects:

	A	B	C	D	E
Investment needed today (Rs in million)	10.5	6.4	9.7	12.2	13.1
Projected annual cash inflows (Rs in million)	3.5	1.7	2.9	3.0	6.9
Cash inflows start from the end of the year	1	2	2	3	4
Life of the project (years)	6	10	9	12	10
Appropriate discount rate for relevant risk levels	10%	13%	8%	12%	11%

Total funds available with the company for investment are Rs 43 million. All projects are mutually exclusive except for D and E which are mutually dependent. Assume that all the projects are non-divisible.

Required:
Determine the most beneficial investment mix. **(12)**

Q.2 You are head of Finance Department of Fantastic Limited. Mr. Young has recently joined your company as Assistant Manager. He is familiar with stock market and deals on his personal account.

He submitted some suggestions to the board of directors for investment in stock market. One such suggestion was about arbitrage opportunity in shares of Fast Limited as detailed below:

	Rupees
Spot price	181.00
Future price (two months from now)	187.00
Transaction cost (Spot)	0.20
Transaction cost (Future)	0.15

The Directors, being attracted with such effortless profit, asked you to analyze this opportunity. You have extracted the following further information:

- Shares of Fast Limited had been performing quite well and gained around Rs 95 during the last three months.
- 10% margin is payable on the future transaction which is adjustable at the time of final settlement.
- Future is marked to market on monthly basis i.e. the difference between the transaction price and the quoted price at the end of the month is recovered / paid as the case may be.
- Company's incremental rate of borrowing is 14% per annum.

Required:

(a) Compute net gain on suggested arbitrage transaction. **(04)**

(b) At what price of share in future market quoted at the end of the first month, the company may incur loss? **(06)**

Q.3 During the board meeting of Venus Industries Limited, one of the directors had stressed the need to review the company's dividend policy. According to him, the decision regarding dividend payment should be based on 'Tax Preference Theory', which suggests that investors prefer the return in the form which is more beneficial from tax point of view.

Historically, the company has been paying a dividend of Rs 15 every year. Tax rate applicable on dividends is 10% whereas capital gains are exempt from tax. The transaction costs associated with sales/purchase of shares are estimated at 0.5% of the value involved.

Currently company's shares are being traded at Rs 150 (Ex-dividend). Based on company's earning potential, the share price is expected to increase by 15% by the end of the year.

Required:
Estimate the impact on the price of the company's share if the directors decide to disclose that they do not intend to distribute dividend in the forthcoming year to allow the shareholders to avail the benefit of tax exemption on capital gains. Assume that the market is semi-strong form efficient. **(09)**

Q.4 Speedo Motors Limited has been in the business of Auto Assembling for over 10 years The economic environment has induced the company to think about other projects also.

The data relating to the company's performance is as follows:

Return on equity	17%
Dividend yield	11%
Standard deviation of returns	32%

The company is considering the following two projects:

(i) Establishing an auto parts factory; or

(ii) Entering into artificial leather manufacturing industry.

The expected returns etc. from these projects are as follows:

	Auto Parts	**Artificial Leather**
Average return	19%	13%
Standard deviation of returns	43%	27%
Co-relation of returns with existing operations	0.92	0.23

Market returns are 12% with a standard deviation of 20%. It is expected that after any such investment is made, the new investment will constitute about 30% of the new market value of the company.

Required:
Due to shortage of funds, the company can opt for only one of the above projects. Evaluate the two options and advise. Combine standard deviation can be calculated by using the following formula:

$$\sqrt{(\sigma_1 W_1)^2 + (\sigma_2 W_2)^2 + (2 \times Correlation \times \sigma_1 W_1 \times \sigma_2 W_2)}$$ **(15)**

Q.5 Zuhair Limited is considering introducing a new product. Market research was carried out by the company to determine the sales potential of the product, which costed Rs 175,000. Research suggested that the demand will last for 4 years and the company will be able to manufacture and sell 100,000 units each year. The initial price shall be Rs 110 per kg and will increase at a constant rate of 10% per annum. Production batch size shall continue to be of 12,500 units.

Labour related information is as follows.

	Rate Rs per hour	**Man Hours per batch**	**Learning Curve**	**Surplus Labour Hours Available**
Skilled Labour	100	6,250	NIL	20,000 hours available in Year-1 and Year-2.
Unskilled Labour	40	5,000	90%	NIL

The learning curve is expected to continue till the 8th batch. Based on the above, it has been determined that 3,121 unskilled labour hours shall be required to produce the 8th batch in the first year.

Labour charges are expected to increase by 5% per annum.

Three types of raw material will be required to manufacture this product. The relevant information is as under:

Material	**Available in stock (kgs.)**	**Requirement per unit**	**Purchase price Rs / kg**	**Current Price Rs / kg**	**Resale Price Rs / kg**
A	100,000	1.0 kg	10	8	6
B	20,000	0.5 kg	12	17	15
C	150,000	2.0 kg	18	20	16

Prices of raw material are expected to remain constant through out the period. Material A is in regular use of the company. Material B would be sold if not used. Material C was purchased few years back and is considered obsolete.

The production will be carried out on two machines RR and YY. RR was purchased two years ago at a cost of Rs 900,000. It is working below capacity and can easily be used for producing the required quantity of the new product. Machine YY is available in the market at a cost of Rs. 750,000. Resale values of machines RR and YY after the end of the project life are estimated at Rs 90,000 and Rs 75,000 respectively. The company has a policy to depreciate the assets on straight line basis over the useful life of the machines.

Zuhair Limited cost of capital is 20% per annum. All the payments and receipts are expected to arise on the last day of the year except where otherwise stated.

Required:
Determine whether Zuhair Limited should introduce the new product. Ignore taxation. **(17)**

Q.6 Matured Limited, a manufacturer of tomato ketchup, is in the process of expanding its existing manufacturing facility in view of a surge in demand in the market. The cost of the new facility is estimated at Rs 174 million, to be financed by equity and bank borrowings in equal proportion. The borrowing is available at a fixed mark-up of 10% or at KIBOR + 2.0%.

Another company Goldenage Limited, engaged in garment manufacturing, has been awarded a three years contract for factory uniforms, by a large group of industries. This order requires expansion in facilities, the cost of which is estimated at Rs 250 million. 70% of the cost is to be financed through equity and 30% through debt. Negotiations finalized with the bank indicate a fixed mark-up of 12.5% or KIBOR + 4.25%.

Required:

(a) Advise each company whether they should opt for a fixed or a floating mark-up rate. Support your opinion with reasons. **(03)**

(b) An investment bank has offered an interest swap arrangement to the two companies. Should the companies accept its offer? **(06)**

(c) Assuming that both companies agree on a swapping arrangement on loans amounting to Rs 75.0 million each and the actual KIBOR for the year is 9.0%, compute the amount that will be paid by one company to the other. (Assume that profit on swap arrangement is to be shared equally). **(06)**

Q.7 The directors of Infinity Limited are interested in evaluating the impact of variation in capital structure on the company's value and cost of capital. As a first step, they wish to investigate the effect if the capital structure was 80% equity and 20% debt.

They have estimated that the following relationship exist between interest cover, credit rating and cost of debt:

Interest Cover	**Credit Rating**	**Required return on debt**
Greater than 8.0	A	8%
4.0 to 8.0	B	9%
Less than 4.0	C	11%

Following is an extract from profit and loss account of the company for the year ended December 31, 2006.

	Rs in million
Net operating income before depreciation	210
Depreciation for the year	40
Interest on long term debt @ 11%	55

Capital spending in each year would almost be equal to the depreciation charged during that year. Growth rate of operating cash flows after capital spending may be assumed to be constant and unaffected by any change in capital structure.

Market value of equity and debt is Rs 795 million and Rs 500 million respectively. Company's equity beta is 1.4. The debt beta may be assumed to be zero. The risk free rate is 5.5% and the market return is 14%.

Tax rate applicable on company's income is 35%.

Required:

(a) Compute the following:

- (i) Existing Weighted Average Cost of Capital;
- (ii) Weighted Average Cost of Capital at the revised debt equity ratio using an approximate 'required return on debt' (For this calculation assume that the market value of the company after restructuring will remain the same).
- (iii) Growth percentage of operating cash flows after capital spending; and
- (iv) Revised market value of equity and debt.

(b) Calculate the rate of return on debt on the basis of revised market value. **(22)**

(THE END)

THE INSTITUTE OF CHARTERED ACCOUNTANTS OF PAKISTAN

Final Examinations Winter 2006

December 6, 2006

BUSINESS FINANCE DECISIONS (MARKS 100)

Module F (3 hours)

Q.1 Following data has been extracted from the published financial statements of Progressive Limited.

	2004	2005	2006
	-----Rupees in thousand-----		
Cash Flows from Operating Activities			
Net profit	8,640	10,400	13,080
Depreciation	14,400	19,800	24,000
Interest expense	4,000	5,200	5,200
Provision for taxation	2,160	2,600	3,270
Changes in working capital			
Trade debtors	(500)	(2,000)	(1,500)
Trade creditors	200	900	400
Short term investments	(1,000)	(6,000)	(1,000)
Interest paid	(4,000)	(5,200)	(5,200)
Taxes paid	(2,160)	(2,600)	(3,270)
	21,740	**23,100**	**34,980**
Cash Flows from Investing Activities			
Additions to factory building and plants	-	(45,000)	(35,000)
Acquisition of land	(26,000)	(5,000)	-
	(26,000)	**50,000)**	**(35,000)**
Cash Flows from Financing Activities			
Quoted Debt issued at Par value	-	15,000	-
Issuance of shares of Rs. 10 at par value	-	15,000	-
	-	**30,000**	**-**
Net Cash Flows during the year	**(4,260)**	**3,100**	**(20)**
Cash at the beginning of the year	4,800	540	3,640
Cash at the end of the year	**540**	**3,640**	**3,620**

(i) Further information is given below:

	2004	2005	2006
Market price of shares at the beginning of the year (Rs.)	14.4	14.4	17
Monthly sales (Rs. in '000')	3,750	5,000	6,000
Debt at the beginning (Rs. in '000')	50,000		
Number of shares outstanding at the beginning (in million)	5.0		

(ii) The following information relates to the period 2003 to 2006:

Market form	Semi-strong
Risk free rate of return	5%
Market rate	12%
Comparable security beta	2.0
Comparable Debt/Equity ratio	60:40
Market price of quoted debt (Par value Rs.1,000)	1280

Land was purchased in view of medium term speculative gain available in real estate market.

(iii) Market price of the company's share at the end of the year 2006 was Rs. 19.20 per share.

Progressive Limited, formed in 1996, has been managed by an employed management consisting of highly qualified executives. The board of directors allows them maximum free hand to operate the business. The management has always been keen in expansion and highlights the growth in revenues as a proof of its success.

The relatively high level of liquidity is justified by the management as cover for monthly expenditure and to avail the benefits of any investment opportunity that needs an immediate decision.

Recently, directors are receiving severe criticism from the shareholders on company's profit retention policy. Mr. Q, one of the directors, is a friend of yours. He shared the above information with you and requested you to give your advice.

Required:
Prepare a brief note containing the following:

(a) Computation of 'Free cash flows' of the company along with other inflows. **(07)**

(b) Brief comments on application of the funds generated from the free cash flows and other inflows. **(07)**

(c) Review of retention policy from the shareholders' perspective, for each year separately. **(09)**

Q.2 Management of Accurate Limited is interested in evaluating the expected effect of a recently announced tax rate reduction by the government on its share price and the cost of capital. The announced tax cut has reduced the tax from 35% to 30%.

Accurate's current capital structure is as follows:

	Rupees in million
Issued, subscribed and paid up share capital – Par value Rs 10	600
Share premium account	480
Other revenue reserves	620
Shareholders' equity	1,700
10% irredeemable debentures – Par value Rs. 100	500
	2,200

The company's shares are currently trading at Rs 32 per share ex-dividend, and debentures at Rs 125 per debenture.

Prior to tax change, the value of company's equity beta was 1.2. The market return is 13% p.a. The tax cut is expected to increase the net present value of company's operating cash flows by Rs 150 million.

Required:

(a) Estimate the company's current cost of capital **(05)**

(b) Using Modigliani & Miller's theory of capital structure, estimate the following after the change in tax rate:

- (i) the expected share price **(04)**
- (ii) the company's expected cost of capital **(07)**

(c) Explain why a 5% fall in tax rate could not materially affect company's cost of capital? **(04)**

Q.3 You are the management accountant of a company that is in the process of evaluating a new investment opportunity. Traditionally, the company has been using the Net Present Value method for such evaluation, using its cost of capital of 10% as the discount rate.

You have recently studied the concept of Residual Income and are keen to apply the methodology at this new project. Following is the data you have collected about this project:

(i) Sales in the first operating years are expected to be Rs 1 million. The sale in nominal terms is expected to increase by 20% p.a. that includes price increase of 2% per annum.

(ii) Raw material cost in first year of the operation is expected to be 30% of sales revenue. The raw material price is subject to an annual increase of 5%.

(iii) The production will require specialized labour. In first operating year, labour cost is estimated to be 25% of sales revenue. An annual increment rate of 10% has been agreed with the labour union.

(iv) All other production costs (predominantly fixed) will be Rs 100,000 in today's terms. Any increase in price of such expenses is expected to be matched with efficiency.

(v) Project life is spanned over five operating years.

(vi) Funding requirement will be Rs 1 million upfront to start the project. The funding source is not expected to alter the company's required rate of return.

The company plans to redeem the combined equity raised for this specific project along with the cost thereon in five equal installments

Required:

Using annuity depreciation as appropriate, compute the residual income expected from the project, in respect of each of the five years. **(09)**

Q.4 Fresh Limited is a manufacturer of four products A, B, C and D. While planning for the coming year, the management is concerned about declining trend in the sales of A and expected increase of variable cost of B. However, they are confident about the continuity of the sale of B, C and D.

Data pertaining to last year is as under:

	A	**B**	**C**	**D**
Sales (thousands of units)	12,000	6,000	1,800	2,000
Fixed cost (Rs. per unit)	25	20	5	14
Variable cost (Rs. per unit)	32	20	4.50	13
Selling price (Rs. per unit)	75	60	15	25

Current year's budget forecast is as under:

Sales (thousands of units)	11,400	7,000	2,000	2,000

Variable cost of item B is estimated as Rs. 21 per unit.

Discontinuance of production of D is also under consideration at least till next year when the management will be in a position to increase its price.

Required:
The management has made the budget with reasonable care. Given the circumstances the real challenge for the management would be to at least maintain the last year's profitability. Determine which of the following variable is most sensitive when viewed in relation to the objective of maintaining the level of profitability.

- Volume of product A
- Price of product A
- Variable cost of product B **(14)**

Q.5 A company is analysing its short term investment strategy so as to select the appropriate risk level in relation to investments for the coming year. Return for the coming year is a function of the level of risk taken by the company in investment strategy and the performance of market in the year ahead.

For decision making purposes, the level of risk that can be taken has been classified in discrete categories representing High, Medium or Low level of risk. Similarly the market performance has also been divided into similar performance achievements i.e. High, Medium and Low levels of performance.

A schedule has been prepared showing the expected absolute returns in each of the possible scenarios as follows:

Return on:	**Market Performance**	**Rs.**
High risk investment	High	1,500,000
	Medium	900,000
	Low	300,000
Medium risk investment	High	875,000
	Medium	1,250,000
	Low	500,000
Low risk investment	High	500,000
	Medium	750,000
	Low	850,000

The probability profile for the market performance in the year ahead has been estimated as High – 30%, Medium – 40% and Low – 30%.

The company is considering services of a market analyst who can provide information about the performance of market on timely basis enabling the company to switch quickly, from one investment to the other.

Required:
(a) Advise the company as to what level of risk it should be willing to take for its investments in the coming year without hiring the services of analyst, to maximize expected value? **(08)**

(b) Assuming that the information generated by the analyst will be perfect, what is the maximum amount that the company may pay for such services? **(04)**

Q.6 Prudent Limited imports two major chemicals from USA, which are sold to a limited number of buyers. Company negotiates the price of the product with the buyers at the start of every half year.

Historically, US $ is getting stronger against Pak Re. that exposes the company to exchange rate risk. For many years the company has been hedging all of its forex transactions by way of forward booking.

You have recently joined the company as finance director and have been assigned to prepare financial plan for the coming half year starting from January 01, 2007. While reviewing forex hedging policy, you noticed that other avenues like futures and options have never been evaluated by the management.

Following information is available with you:

- Company plans its imports on half yearly basis.
- The buyers have indicated their requirements at 6,000 kgs. for the coming year.
- The chemical is currently available at US $ 106/kg.
- Supply to buyers is almost evenly divided into months.
- Economic Order Quantity for the chemical is 500kgs.
- Import bills are paid one month after the date of order.
- Rates of interest on Rupee account and on US $ account are 10% and 5% per annum respectively.

Assumptions to be made:

Following options will be available for sale with brokers on January 01, 2007.

	Strike price Rs.	**Option cost Rs. / $**					
		Jan	**Feb**	**Mar**	**April**	**May**	**June**
Call Option	60.65	0.40	0.60	0.92	1.18	1.38	1.50
Put Option	60.65	0.35	0.51	0.85	1.05	1.29	1.35

Market quotes of futures on January 01, 2007 will be as under:

Maturing on:	
January 31, 07	60.45/$ - 60.65/$
February 28, 07	61.27/$ - 61.50/$
March 31, 07	61.55/$ - 61.75/$

Required:

(a) Suggest your preferred hedging choice with justification. **(04)**

(b) To evaluate your suggestion given in (a) above, the board has requested you to prepare a comparison of hedging effect in money term through forward, options and futures assuming that following spot rates will be quoted in the market.

January 01, 07	60.10/$ - 60.50/$
January 31, 07	60.50/$ - 60.75/$
February 28, 07	60.05/$ - 60.20/$
March 31, 07	60.75/$ - 60.90/$

(18)

(THE END)

THE INSTITUTE OF CHARTERED ACCOUNTANTS OF PAKISTAN

Final Examinations Summer 2006

June 07, 2006

BUSINESS FINANCE DECISIONS

(MARKS 100)
(3 hours)

Q.1 NiceOne Traders are a large multinational trading company with operations spread in various cities around the world. The Finance Director of the company wants to implement a hedging policy within the company that would prescribe use of foreign currency futures as a hedge instrument. In order to test this policy, the Finance Director has instructed his Chicago Office to hedge the following foreign currency transactions carried out on April 16, 200X:

Export	€697,500	Receivable on May 19, 200X
Import	£790,800	Payable on July 31, 200X

After the year end on 30 September 200X, the finance director wants to evaluate the impact of the decision.

Spot rates on the relevant dates were as under:

As on April 16	$1.3924/€ - $1.3927/€	$1.9271/£ - $1.9275/£
As on May 19	$1.3891/€ - $1.3895/€	-
As on July 31	-	$1.9335/£ - $1.9339/£

Futures' rates on the relevant dates were as under:

	Maturing on	Rates on April 16	Rates on May 19	Rates on July 31
Euro Futures	Jun. 30	$1.3875/€ - $1.3880/€	$1.3846/€ - $1.3848/€	-
	Sep. 30	$1.3887/€ - $1.3890/€	$1.3857/€ - $1.3860/€	-
Sterling Futures	Jun. 30	$1.9327/£- $1.9331/£	-	-
	Sep. 30	$1.9352/£ - $1.9355/£	-	$1.9411/£ - $1.9416/£

Market lot in future market for each currency is 100,000.

Required:

(a) Compute the gain / loss on above transactions:
- (i) if these were carried out without hedging. **(03)**
- (ii) after hedging. **(09)**

(b) Compute the effective foreign exchange rate applicable to the hedged transaction. **(03)**

Q.2 BestOne Limited is exploring the opportunities to expand. One opportunity being considered is that of buying a recently built manufacturing plant which has not yet started operations. The cost and NPV of the project is estimated as Rs. 20 million and Rs. 1.4 million respectively.

Rs. 8 million has been arranged in the form of debt financing at KIBOR + 4%. The premium on this loan is considered to be in line with the market estimation of BestOne's risk profile. Bank will charge an arrangement fee of 2.5% for this loan.

Shares are to be issued for the remaining amount at par value of Rs 10. The issue cost is estimated to be 7% of the amount issued.

Market is semi-strong form efficient and the directors only disclose information about debt and equity amounts to be raised (not issue costs) and NPV of the project. Current market price is Rs. 12.5 per share and the numbers of shares outstanding are 3.5 million.

Required:
Compute the theoretical post issuance market price of each share of BestOne Limited. **(09)**

Q.3 Following information has been extracted by you regarding some companies listed on the Karachi Stock Exchange:

Company Name	Expected Equity Returns (Rs. / share)	Present Market Price (Rs. / share)	Standard deviation of 'return % on equity'	Covariance with market return%
A Limited	3.25	18.00	6.3	32
B Limited	18.60	212.00	4.8	19
C Limited	0.80	4.50	4.7	24
D Limited	4.15	20.00	6.9	43

Market return has been estimated to be on average around 14.5% per annum (adjusted for the dividend exclusion thereof) with a variance of 25%, whereas the risk free rate is around 6% per annum.

Required:
(a) Estimate and interpret the 'Alpha Values' for each of the given companies. **(06)**
(b) How will the analysis carried out in (a) above help you in deciding about investing in the stock market? **(07)**

Q.4 GoodOne Limited, a manufacturer of cement blocks, has had a consistent profit stream for many years. Accordingly, controlling and minority equity holders both prefer stable and high dividend payout policy that ranges between 90-95% of the earning.

The construction industry is showing an upward trend currently and demand of construction material is expected to increase consistently in next 3-5 years period.

In line with the industry trend, the company is considering to acquire manufacturing facilities to produce ceramic tiles and other similar items as part of its medium term expansion strategy.

Investment opportunity presently available to the company are as under:

Project coded as	Expected upfront investment for the project Rs. '000'	IRR of the project taking into account after tax cash-flows for the life of the project
P	10,000	12.0%
Q	12,000	11.5%
R	12,200	11.0%
S	12,500	10.5%
T	10,500	10.0%

GoodOne has an existing and target debt to equity ratio of 0.75 to 1. Debt is available at 8% per annum (after tax). The cost of its equity at the targeted gearing level is 12.5% per annum, funded either from retained earnings or equity issue.

This year GoodOne has after tax earning of Rs. 25 million wherefrom the dividend will be paid. Prior years' balance of retained earning is Rs. 8.5 million.

Required:
You, being the CFO of the company, have been asked by the Board of Directors to prepare a memorandum suggesting the amount that can be declared as dividend for the current year keeping in view the opportunity of growth in the industry. **(12)**

Q.5 PoliteOne Limited, presently engaged in manufacturing of fancy tents, is considering investing in a manufacturing facility for long life tents to be used as shelter for victims of natural disasters all over the world. The project will change the company's balance sheet footing significantly. Other relevant details of the project are as under:

(i) Total investment is expected to be Rs. 35 million.
(ii) Directors have decided to meet funding requirements through a debt of Rs.15 million and remainder by a fresh equity issue.
(iii) Debt is available at a subsidized rate of 12% per annum for this particular project.
(iv) Operations will start from year one. Project's life is expected to be infinite.
(v) Corporate tax is chargeable at the rate of 30%.
(vi) Debt equity ratio of the industry is around 35:65 with 15% cost of debt before tax adjustment and 18% cost of equity. Company's existing WACC is 21%.
(vii) The new project is expected to give revenue of Rs. 17.5 million in Year- 1 with a growth of 50% per annum till Year - 3. Revenue is expected to stabilize at Rs. 60 million from Year – 4.
(viii) Margin in the industry is around 35%. Fixed costs of the company are Rs. 1.5 million per annum for the first year rising by 5% annually and stabilizing from year-4.
(ix) It is assumed that costs are paid at the end of year. Revenue collection follows a pattern of 15% in the year earned and remaining in the next year.
(x) Life of assets is taken as 4 years for tax purposes.

Required:
Should the company invest in this project? Support your answer with relevant workings. **(18)**

Q.6 SimpleOne Limited is a manufacturer of bottles for industrial users. The company is using a two-year old label printing machine having a book value of Rs. 450,000 and remaining useful life of 5 years. The machine has no significant market value due to some in-house alterations made to make it compatible with the company's main plant. Presently, it can be sold for Rs. 35,000 only.

Company's production manager suggested that existing machine may be replaced with a new state-of-the-art printing machine which is fully compatible with the company's existing plant.

The cost of new machine is Rs. 950,000 and has an expected useful life of 5 years with a salvage value of Rs. 200,000.

The replacement will save fixed costs (excluding depreciation) amounting to Rs. 35,000 per annum and consumables of Rs.12 per carton of bottles produced. With the installation of new machine annual sales/production is expected to be 3,150 cartons, 5% more than the sale/production that can be achieved with the old machine. Existing margin on each carton is Rs. 938.

One of the company's directors, Mr. CareFull, is your friend and has requested you to jot down some meaningful points for discussion during the forthcoming meeting called for making a final decision on the proposal.

Required:
Prepare a brief for Mr. CareFull:
(i) Containing your recommendation based on the available information, and
(ii) Identify any information which may affect your recommendation in (i) above.

Support your answer with relevant workings. **(14)**

Q.7 SuperOne Limited follows an 'acquisition' model for expansion, that is, it acquires existing businesses for expansion.

SuperOne is negotiating with the management of a targeted company, WeakOne Limited. Following is some relevant information:

(i) Summarized balance sheet of the acquiree is as under:

Net Asset	**Rs. in million**
Fixed assets	10.00
Other non-current assets	11.70
Current assets	25.00
Non-current liabilities	(11.25)
Current liabilities	(16.00)
Total	**19.45**
Represented by	
Paid up capital (2.5 million shares)	25.00
Accumulated loss	(5.55)
Total	**19.45**

(ii) Fixed assets include properties with a carrying value of Rs. 1.7 million and a market value of Rs. 3.2 million.
(iii) Restructuring cost amounting to Rs. Rs. 2.2 million would be incurred which would result in annual cost savings of Rs. 1.2 million.
(iv) Transaction cost to be borne by SuperOne is estimated at Rs. 1.5 million.
(v) WeakOne's assessed tax losses are Rs. 6.0 million in aggregate, which will be adjustable in three subsequent years equally against the project of the acquirer.
(vi) Tax rate applicable on SuperOne is 30%.
(vii) The consideration for transaction has been agreed to be settled through the issuance of marketable debt instruments having a face value of Rs. 5,000 carrying 16% return payable annually.

(viii) Above instrument will be redeemed at the end of the third year.

(ix) Yield on debt instruments of a similar nature in the market is 12.5% per annum and no significant variation is expected during the next three years.

(x) While deciding the swap ratio all the benefits of merger including expected restructuring benefits will be shared by both companies equally.

(xi) Weighted average cost of capital of the merged company is 17.5%.

Required:
Advise SuperOne about the total number of debt instruments to be issued to the shareholders of WeakOne Limited, and the value of goodwill to be incorporated in its balance sheet. **(14)**

Q. 8 CreativeOne Limited has to settle a liability of Rs. 388.50 million payable at the end of third year. It bought Rs. 300 million of 9 percent 3-year non-callable government treasury bonds for the purpose. Return was payable annually and company was expecting that it will always have the opportunity to reinvest the inflows at 9 percent. On the same assumption company was confident to settle the liability in full at the end of third year without injecting further funds. However, at the end of first half of first year the interest rate declined to 8.5% and further decline is also possible.

The company's CFO, in order to redress the situation, suggests:

(i) Floating of zero coupon bonds (discounted bonds) to general public backed by cash inflows of above stated investment, and

(ii) Investment for a period of two and a half years in Government's zero coupon bonds presently offering 8.00% per annum yield.

Individual investors are expected to invest in such risk free issue of the company if following rates are offered:

06 months	6.00%
12 months	6.25%
18 months	6.50%
24 months	6.75%
30 months	7.00%
36 months	7.25%

Issue cost is estimated as 1% of the face value.

Required:
You are required to compute the following (for simplicity you may take fractional face values of bonds, if necessary):

(a) Face value, maturity period and sale price (based on semi-annual compounding) of bonds to be issued to the public by CreativeOne Limited. **(02)**

(b) Future value of zero coupon bonds purchased by CreativeOne Limited against the liability of Rs. 388.50 million. **(03)**

(THE END)