Module B

Diploma in Financial Management

PAPER DB1, INCORPORATING SUBJECT AREAS
– FINANCIAL STRATEGY
– RISK MANAGEMENT

TUESDAY 5 JUNE 2007

QUESTION PAPER

Time allowed **3 hours**

This paper is divided into three sections

Section A	ALL 20 questions are compulsory and MUST be answered
Section B and Section C	THREE questions in total to be answered. Candidates MUST answer ONE question from Section B, ONE question from Section C and ONE further question from either Section B or Section C.

Present Value Rates are on page 2.

Do not open this paper until instructed by the supervisor

This question paper must not be removed from the examination hall

The Association of Chartered Certified Accountants

Present value of $1 receivable in n years at x%

n \ x	8%	11%	12%
0	1·00	1·00	1·00
1	0·93	0·90	0·89
2	0·86	0·81	0·80
3	0·79	0·73	0·71
4	0·74	0·66	0·64

Section A – ALL 20 questions are compulsory and MUST be attempted

Please use the Candidate Registration Sheet provided to indicate your chosen answer to each multiple choice question. Each question within this section is worth 2 marks.

1 An investor holds warrants that can be used to subscribe for ordinary shares, on a one-for-one basis, in Nidum plc, a UK company. The current share price is £1·75 and the exercise price is £2·00. The par value of each share is £1·00 and warrants are quoted at £0·40 each.

What is the conversion premium of each warrant?

A £0·15

B £0·25

C £0·65

D £1·40

2 The profitability index may be used in investment decisions where capital rationing exists. In this context, when selecting investments for an optimal portfolio, the use of the profitability index is appropriate only where:

1. projects are divisible.
2. capital rationing occurs within a single investment period.

Which one of the following combinations (true/false) relating to the above statements is correct?

	Statement 1	Statement 2
A	True	True
B	True	False
C	False	True
D	False	False

3 The current market value of shares in Segontium Co is \$2·50 and the most recent dividend was \$0·20 per share. The annual growth rate in dividends is expected to be 5%.

What is the cost of the company's equity share capital?

A 3·4%

B 7·6%

C 13·0%

D 13·4%

4 Which one of the following statements concerning sources of finance is correct?

A Warrant holders are eligible to receive a dividend on a company's profits

B The coupon rate on convertible bonds is usually lower than the coupon rate on non-convertible bonds

C Retained earnings represent a free source of finance to the business

D An operating lease is an asset rental agreement where the term of the lease is for most or all of the useful life of the asset

5 Londinium Co agreed to purchase all the shares of Calleva Co in a share-for-share exchange. Information concerning each company is as follows:

	Londinium Co	Calleva Co
Number of ordinary shares in issue	50·0m	30·0m
Profits before tax	$20·0m	$9·0m
Profits after tax	$15·0m	$6·0m

Londinium Co has a P/E ratio of 14 times and has agreed to acquire Calleva Co's shares for a price based on this ratio. It is expected that there will be no growth in earnings following the acquisition.

What is the expected earnings per share of Londinium Co following the acquisition?

A $0·19

B $0·26

C $0·30

D $0·40

6 Oxon Co has ordinary shares in issue with a nominal value of $1·00. The dividend payout ratio is 20% and the gross dividend yield is 4%. The earnings per share is $0·60.

What is the price/earnings ratio of the company?

A 25·0 times

B 13·8 times

C 5·0 times

D 1·8 times

7 Consider the following two statements concerning invoice discounting:

An invoice discounter will take on:

1. the administration of receivables of the client business.
2. responsibility for any bad debts relating to discounted invoices.

Which one of the following combinations (true/false) relating to the above statements is correct?

	Statement 1	Statement 2
A	True	True
B	True	False
C	False	True
D	False	False

8 An investor undertook a ratio analysis of the most recent financial statements of Calcaria Co and concluded that the company was overcapitalised.

Which one of the following ratios would be consistent with this condition?

A A short average settlement period for receivables

B A long inventory-holding period

C A long average settlement period for payables

D A high sales to working capital ratio

9 The financial performance of Eboracum Co for the most recent year produced the following ratios:

Dividend cover	5 times
Interest cover	6 times
Dividend per share	$0·20

The company has ordinary share capital of $10m made up of $0·50 ordinary shares. The company pays tax at 20%.

What is the net profit before interest and taxation of the company?

A $1·2m

B $15·0m

C $28·8m

D $30·0m

10 Dunelm (Engineering) Co buys raw materials from suppliers on four weeks' credit and they are delivered immediately. When the raw materials are received, they are held in the warehouse for five weeks before being used in production. The production process takes one week and the completed goods are held for two weeks before finally being sold to credit customers. These customers are allowed a maximum credit period of six weeks but pay after three weeks in order to obtain a discount for prompt settlement.

What is the opening cash cycle of the business?

A 7 weeks

B 10 weeks

C 11 weeks

D 12 weeks

11 Oxonia Co is considering two potential investments, Delta and Omega, which have the following characteristics:

	Delta	**Omega**
Standard deviation	5%	2%
Expected return	15%	7%

The company expects to hold 70% of its funds in Delta and 30% in Omega. The returns on the two investments have a correlation coefficient of +0·6.

What is the expected level of return and level of risk for this two-asset portfolio?

	Portfolio return	Portfolio risk
		$\left(\sigma_p = \sqrt{\sigma_a^2 x^2 + \sigma_b^2 (1-x)^2 + 2x(1-x)P_{ab}\sigma_a\sigma_b}\right)$
A	11·0%	3·5%
B	12·6%	2·6%
C	12·6%	3·9%
D	13·2%	4·7%

12 Consider the following statements concerning currency risk hedges:

1. A currency swap may be used to hedge for a longer period than that offered by forward exchange contracts.
2. A futures contract can be customised to fit the particular needs of the client.

Which one of the following combinations (true/false) concerning the above statements is correct?

	Statement 1	Statement 2
A	True	True
B	True	False
C	False	True
D	False	False

13 A UK company expects to receive €200,000 in three months' time for goods sold to a German customer and wishes to hedge the currency risk by taking out a forward contract. The following rates have been quoted:

	Spot rate	**3 months forward**
Euro per £	1·4925–1·4985	1·4890–1·4897

If the forward contract is taken out, what are the sterling receipts for the UK company?

A £133,467

B £134,003

C £134,255

D £134,318

14 A UK company has just provided a service to a US company for $750,000. Settlement is due in two months' time and the UK company wants to hedge the risk of a fall in the value of the US dollar over the next two months. The following methods of hedging this risk have been suggested:

1. Buy sterling put options now
2. Buy sterling futures now
3. Buy sterling call options now
4. Sell sterling futures now

Which two of the above suggestions would provide a hedge against the exchange rate risk?

A 1 and 3

B 1 and 4

C 2 and 3

D 2 and 4

15 Ardotalia Co has irredeemable loan stock with a nominal value of $6m on which it pays interest at the rate of 10% per year. The market value of the loan stock is currently $8 million and the corporation tax rate is 20%. The company also has equity shares in issue with a market capitalisation of $12 million. The weighted average cost of capital of the company is 12%.

What is the company's cost of equity?

A 13·3%

B 14·7%

C 15·0%

D 16·0%

16 Consider the following statements concerning dividend policy.

According to the Modigliani and Miller (without taxes) view of dividend policy:

1. dividends should be distributed only when investment opportunities are exhausted.
2. the value of a business is determined by the earning power of its assets rather than by its dividend policy.

Which one of the following combinations (true/false) concerning the above statements is correct?

	Statement 1	Statement 2
A	True	True
B	True	False
C	False	True
D	False	False

17 Hortonium Co is a very large company listed on the London Stock Exchange. It has a board of directors that is made up of nine directors, including the chairman. It also has an audit committee that is made up of three directors.

To comply with the recommendations set out in the Combined Code, what should be the minimum number of independent, non-executive directors on the board of directors and on the audit committee?

	Minimum number of non-executive board members	Minimum number of non-executive audit committee members
A	2	2
B	3	2
C	4	3
D	5	3

18 Consider the following statements concerning the re-election of directors.

According to the Combined Code:

1. All directors should be subject to re-election at intervals of no more than five years.
2. All non-executive directors should be subject to annual re-election after serving more than nine years.

Which one of the following combinations (true/false) concerning the above statements is correct?

	Statement 1	Statement 2
A	True	True
B	True	False
C	False	True
D	False	False

19 Consider the following two statements concerning interest rate options.

1. A lender will use a call option to hedge against interest rate risk.
2. A borrower will let an option lapse if, at the expiry date, the current market rate of interest is higher than the option strike rate.

Which one of the following combinations (true/false) concerning the above statements is correct?

	Statement 1	Statement 2
A	True	True
B	True	False
C	False	True
D	False	False

20 Consider the following statements concerning financial gearing.

Higher financial gearing increases the risks of:

(i) share price volatility
(ii) earnings per share volatility
(iii) loan default

Which of the above statements are correct?

A (i) and (ii)

B (i) and (iii)

C (iii) only

D (i), (ii) and (iii)

(40 marks)

Section B – Candidates MUST attempt ONE question from Section B, ONE question from Section C and ONE further question from either Section B or Section C.

1 Cantabria Co has recently invested $300,000 in developing 'dog-gone', a device that emits high-frequency sound waves to deter fierce dogs. The device is expected to be popular with joggers, walkers, cyclists and postal workers, all of whom may be at risk from such animals. The sound emitted from the device, which cannot be heard by the human ear, is harmless but produces considerable discomfort for dogs within a five-metre range.

To produce the new device, production equipment costing $200,000 must be acquired immediately. The equipment, which can produce up to 20,000 devices per year, has an expected life of four years and will have no residual value at the end of this period. A market research report, costing $10,000, was recently commissioned. This shows that the new device can be sold for a maximum price of $30 each, assuming that the company wishes the production equipment to be working to full capacity.

Based on the maximum output from the new production equipment, the following estimated costs for each new device are available:

	Notes	$ (Per device)
Materials		
– Alpha	(1)	5·00
– Beta	(2)	3·00
Labour	(3)	10·50
Overheads	(4)	12·50
		31·00

Notes

(1) Each device requires 100 mg of material Alpha. This material, which was acquired at a cost of $7·00 per 100 mg, is in stock and is in general use within the company and is continually replaced. It can be sold for $6·00 per 100 mg but will cost $8·00 per 100 mg to replace.

(2) Each device also requires 200 mg of material Beta. There is currently enough of this material in stock to produce 80,000 devices. If this material, which was acquired at a cost of $3·00 per 200 mg, is not used in the production of 'dog-gone', it cannot be used by the company. The material can be sold immediately for $1·00 per 200 mg but would cost $3·50 per 200 mg to replace.

(3) The figure for labour costs represents the payments to be made to employees working on the new device. New employees will be recruited immediately to undertake this work. At the end of the life of the new device, it is expected that these employees can be transferred to other work within the company.

(4) The figure for overheads includes a depreciation charge for the new equipment. The company uses the straight-line method of depreciation for all its property, plant and equipment. The figure for overheads also includes an apportionment of $70,000 in respect of the general overheads of the business.

The company has a target long-term capital structure of 75% equity and 25% long-term loan capital. The company's cost of equity is 12% and the cost of debt is 8%. The proposed project is small in relation to other projects undertaken by the business and in relation to the size of the business.

Ignore taxation.

Required:

(a) **Assuming the maximum output from the new equipment over the life of the new device, calculate the minimum selling price per device that is required to maintain the existing wealth of the shareholders and comment on your findings.** (15 marks)

(b) **Calculate the difference, if any, in minimum selling price per device to that calculated in (a) above, if:**

(i) **the proposed investment was financed entirely by equity,**

(ii) **the proposed investment was more risky than other investments undertaken by the business and, to compensate for the additional risk, a risk premium of 1% was required.** (5 marks)

(20 marks)

2 Deva Co is a supplier of plasterboard to the building industry. The abridged financial statements of the company for the most recent year are set out below:

Balance sheet as at 31 May 2007

		$000	$000
Non-current assets			
Property, plant and equipment at written down value			595·0
Current assets			
Inventory at cost		250·0	
Trade receivables		620·0	
Bank		23·0	
		893·0	
Current liabilities			
Trade payables	225·0		
Tax due	51·0	276·0	617·0
			1,212·0
Non-current liabilities			
8% loan			600·0
			612·0
Equity			
$1 Ordinary shares			200·0
Retained profit			412·0
			612·0

Income statement for the year ended 31 May 2007

	$000
Revenue	3,200·0
Net profit before interest and taxation	456·0
Interest payable	48·0
Net profit before taxation	408·0
Tax (25%)	102·0
Net profit after taxation	306·0
Dividend paid	100·0
Retained profit for the year	206·0

The company has recently developed a new type of plasterboard with excellent fire-resistant qualities and is expecting this new product to lead to a significant increase in total sales revenue. This, in turn, is expected to lead to an additional profit before interest and taxation of $80,000 per year. To accommodate the anticipated increase in sales, the company has decided to invest $500,000 in new machinery and equipment.

To finance the acquisition of the new assets, the directors of Deva Co are currently in the final stages of negotiations with a provider of development capital. Deva Co has been offered a choice between:

(i) an issue of $1 ordinary shares at a premium on nominal value of $4 per share; or
(ii) an issue of $500,000 9% loan stock at nominal value.

Whichever financing method is decided upon, the amount required will be raised immediately and the existing dividend per share will be maintained.

Required:

(a) For each of the two financing schemes:

(i) prepare a projected income statement for the year ended 31 May 2008;
(Workings should be to nearest $000)

(ii) calculate the projected earnings per share for the year ended 31 May 2008;

(iii) calculate the projected level of gearing as at 31 May 2008. (12 marks)

(b) Calculate the level of profit before interest and taxation at which the earnings per share under each of the financing schemes will be the same. (4 marks)

(c) Evaluate both of the financing schemes under consideration from the viewpoint of the existing shareholders. (4 marks)

(20 marks)

3 Vectis Co operates a wholesale clothing business. At the beginning of June 2007, the company has a bank overdraft of $75,000. The overdraft limit, which has been agreed with the bank, is $90,000 and the directors of the company are keen to keep within this limit. The overdraft has grown significantly over the past three months and, to avoid exceeding the limit, the directors have decided to review their plans for the next six months.

The following actual and forecast information for the period April 2007 to November 2007 is available:

	Actual		Forecast					
	April	May	June	July	August	Sept	Oct	Nov
	$000	$000	$000	$000	$000	$000	$000	$000
Sales	285	270	280	340	320	275	260	285
Purchases	188	164	175	204	183	188	167	194
Administration expenses	42	38	45	48	42	45	42	39
Selling expenses	36	74	45	43	47	42	46	48
Taxation payment				29				
Mortgage repayment					70			
Capital expenditure					38	59		

Notes:

(1) All sales are on credit. Those customers paying within one month receive a 2% discount for prompt payment.

(2) 80% of credit customers pay within one month and 20% of customers pay two months after the sale.

(3) Suppliers allow one month's credit.

(4) The company has negotiated an early repayment of a mortgage on its freehold property. The outstanding capital sum is due to be repaid in August 2007.

(5) Administration expenses are paid when incurred. This item includes a charge of $12,000 each month in respect of depreciation.

(6) Selling expenses are payable one month after they are incurred.

Required:

(a) Explain the benefits that may accrue to a business that prepares a forecast cash flow statement. (5 marks)

(b) Prepare a forecast cash flow statement for internal purposes for Vectis Co for the six months ended 30 November 2007 which shows the cash balance at the end of each month. (Workings should be in $000) (10 marks)

(c) Comment on the information provided by the forecast cash flow statement provided in (b) above and suggest how the directors might deal with any problems that are revealed. (5 marks)

(20 marks)

Section C – Candidates MUST attempt ONE question from Section B, ONE question from Section C and ONE further question from either Section B or Section C.

4 Danum Co is a property company which receives a constant annual rental income, before interest, of $6 million per year. All this income is distributed in the form of interest and dividend payments each year. Danum Co has a weighted average cost of capital of 12% and the loan capital of the company is currently trading at $70 per $100 nominal value.

The company has the following ordinary shares and loan capital in its capital structure:

	$m
$0·50 Ordinary shares	2·0
5% Loan capital	10·0

The board of directors has recently decided to adjust the company's capital structure by issuing additional 5% loan capital and using the proceeds to repurchase 1,400,000 ordinary shares.

Ignore transaction costs and taxation.

Required:

(a) Calculate the cost of equity and market value per share prior to the share repurchase. (7 marks)

(b) Using the net operating income approach proposed by Modigliani and Miller (excluding taxation), demonstrate the effect of the share repurchase on the market value per share and cost of equity. (6 marks)

(c) Discuss the conclusions that may be drawn from the calculations in (a) and (b) above. (2 marks)

(d) Evaluate the weaknesses of the net operating income approach and explain how the introduction of taxation may affect the conclusions discussed in (b) above. (5 marks)

(20 marks)

5 Corinium plc is a large supermarket chain with stores throughout the UK and mainland Europe. The company is highly geared and the most recent balance sheet of the company reveals various forms of loan finance outstanding. The board of directors of the company believes that, although the company is highly geared, it still has debt capacity and is considering the issue of a further £200 million in long-term loans to help finance the purchase of a chain of supermarkets in Northern Ireland. Before a final decision on the issue of further loan finance is made, however, the board of directors has asked the finance director to prepare a report on the existing loan portfolio of the company. If the report reveals that the key issues and risks relating to the loan portfolio are being properly managed, the directors of Corinium plc will arrange further floating-rate loan finance, using a swap agreement to achieve this. Corinium plc has an excellent credit rating and can raise fixed interest rate loan capital at 5·4% and floating interest rate loan capital at LIBOR plus 0·4%.

A swap bank is prepared to arrange the swap agreement and to act as guarantor for both parties to the agreement for a total fee of 0·3%. A large software company, Dora plc, has been suggested by the swap bank as a suitable counterparty. The company has a reasonable credit rating and can raise fixed interest rate loan capital at 6·9% and floating interest rate loan capital at LIBOR plus 1·0%. The two parties will pay to, or receive from, the swap bank a fixed amount and will receive, or pay, LIBOR in return. Any benefits arising from the swap agreement will be shared equally between the two parties.

Assume LIBOR will be 5·8% during the forthcoming year.

Required:

(a) Discuss the key issues and risks that the board of directors of Corinium plc should consider when assessing whether the loan portfolio of Corinium plc is being properly managed. (8 marks)

(b) Show, with calculations, how a swap arrangement may benefit Corinium plc and provide an analysis of the interest cost payments and receipts of Corinium plc in the first year assuming the swap agreement is arranged. (7 marks)

(c) Briefly discuss the advantages and disadvantages of interest rate swaps. (5 marks)

(20 marks)

6 The board of directors of Dubris Co recently decided that the company should seek a listing on the London Stock Exchange. In preparation for this event, the directors reviewed the company's corporate governance procedures and the main weakness identified was the failure of the board to appraise its own performance. A newly-appointed, non-executive director pointed out that good practice dictates that the board of directors should undertake a formal and rigorous evaluation of its own performance.

Required:

Prepare a report for the board of directors of Dubris Co, which sets out a framework for the evaluation of board performance. The framework should identify the broad areas of board performance that should be evaluated and should set out the key points to be addressed within each of the areas identified.

(20 marks)

End of Question Paper