Intermediate Level

Finance

4 IFIN

18 November 2003

Tuesday morning

INSTRUCTIONS TO CANDIDATES

Read this page before you look at the questions

You are allowed three hours to answer this question paper.
Answer the ONE question in section A (this has 10 sub-questions). Answer the ONE question in section B. Answer TWO questions ONLY from section C.
Maths Tables and Formulae were provided within the question paper and are available elsewhere on the website.
Write your examination number, your contact ID and your name on a double-sided card, which must be attached to your answer book. Write IFIN on the line marked "Subject" on the front of the answer book. Write your examination number on the special answer sheet for section A which is on page 3 of this question paper booklet. Detach the sheet from the booklet and insert it into your answer book before you hand this in.
Do NOT write your name or your contact ID anywhere on your answer book.
Tick the appropriate boxes on the front of the answer book to indicate which questions you have answered.

SECTION A — 20 MARKS

ANSWER *ALL* TEN SUB-QUESTIONS – 2 MARKS EACH

Each of the sub-questions numbered from **1.1** to **1.10** inclusive, given below, has only ONE correct answer.

Required:

On the SPECIAL ANSWER SHEET opposite, place a circle "O" around the letter that gives the correct answer to each sub-question.

If you wish to change your mind about an answer, block out your first answer completely and then circle another letter. You will not receive marks if more than one letter is circled.

Please note that you will not receive marks for any workings to these sub-questions.

You must detach the special answer sheet from the question paper and attach it to the inside front cover of your answer book before you hand it to the invigilators at the end of the examination.

Question One

1.1 Shareholder wealth maximisation is most consistent with

A profit maximisation.

B sales maximisation.

C maximisation of the present value of future cash flows.

D maximisation of future growth.

1.2 Using the capital asset pricing model (CAPM), the beta of company X's shares is 1·6, the risk free rate is 5% and the required return on company X's shares is 16·2%. Company Y is quoted in the same stockmarket, but has a beta of 1·4.

What is the required rate of return on company Y's shares?

A 12·0%

B 13·0%

C 13·2%

D 14·8%

1.3 Examine the validity of the following statements:

Statement 1

The cost of equity is generally lower than the cost of debt as dividend payouts are lower than interest rates.

Statement 2

As gearing rises, the cost of equity and the cost of debt both increase, thus the weighted average cost of capital always rises continuously with increases in gearing.

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

1.4 Company Q is all equity financed. For each £1 of earnings, it consistently pays 30p in dividends and retains 70p for reinvestment. It expects to earn a rate of return of 14% on capital employed.

According to the Gordon Growth Model, what would the rate of earnings growth be in future? Ignore tax.

A 4·2%

B 7%

C 9·8%

D 14%

1.5 The redemption yield on a redeemable bond can be defined (ignoring tax) as

A the annual interest payment divided by the nominal value of the bond.

B the annual interest payment divided by the market value of the bond.

C the rate of interest at which the total discounted value of future interest payments and capital repayments is equal to the current market value of the bond.

D the rate of interest at which the total discounted value of future interest payments is equal to the current market value of the bond.

1.6 A company has a current ratio of 2·3 and a quick ratio (or acid test) of 0·8.

If it increases its overdraft in order to buy more stock as a cash purchase, what will happen to the company's current ratio and quick ratio as a result of this transaction?

	Current ratio	*Quick ratio*
A	Increase	Increase
B	Increase	Decrease
C	Decrease	Increase
D	Decrease	Decrease

1.7 Which of the following is LEAST LIKELY to characterise overtrading?

A Increased borrowing.

B Increased cash balances.

C Increased turnover.

D Reduced working capital.

1.8 Which of the following is LEAST RELEVANT to the simple economic order quantity (EOQ) model for stock?

A Safety stock.

B Annual demand.

C Holding costs.

D Order costs.

1.9 Which of the following most appropriately describes *forfaiting*?

A It is a method of providing medium-term export finance.

B It provides short-term finance for purchasing fixed assets which are denominated in a foreign currency.

C It provides long-term finance to importers.

D It is the forced surrender of a share due to the failure to make a payment on a partly paid share.

1.10 Examine the validity of each of the following statements with respect to the dividend valuation model:

Statement 1

An increase in the dividend growth rate would result in a lower share price.

Statement 2

An increase in the cost of equity would result in a lower share price.

Each statement should be considered separately and in each case all other factors stay constant.

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

.

(Total = 20 marks)

SECTION B – 30 MARKS

ANSWER THIS QUESTION

Question Two

CLK Ltd is a manufacturer of good quality leather jackets, which it sells to small fashion retailers throughout the UK. The ordinary shares are all held by members of the Zhou family, who are also the directors.

The new contract

The Chairman has negotiated a one-year contract to supply leather jackets to a new customer, Marlow plc, which operates a large chain of department stores. The contract would initially be for one year from 1 January 2004 and would be for 30,000 jackets at 2,000 per month for the first six months, then 3,000 per month for the final six months of 2004. The contract may be renewed annually after 2004, depending on the level of service given. If it is renewed, it is expected to continue to generate sales of 3,000 jackets per month.

The company expects sales to existing customers to fall from 72,000 jackets in 2003 to 60,000 jackets in 2004 as some of these customers would now buy from Marlow plc. Demand from existing customers is evenly spread over the year.

Different terms of business would, however, be offered to Marlow plc as follows:

	Marlow plc	*Existing customers*
Selling price per jacket	£180	£200
Credit terms	60 days	30 days

Financing additional fixed assets

The contract with Marlow plc would require significant investment in new plant and machinery of £3 million on 1 January 2004. As with the existing machinery, its net realisable value after purchase is likely to be negligible.

The net book value of existing fixed assets is made up of £5 million of land and buildings and £4 million of specialised plant and machinery. The market value of the land and buildings is £10 million.

The company's overdraft facility is £4 million and the bank has indicated that it is unwilling to extend this. Indeed, it is anxious to reduce the overdraft to £2 million by 31 December 2004 or the annual interest rate would be increased to 10% from its current annual level of 8% on the entire balance outstanding. For simplicity, overdraft interest can be assumed to be paid quarterly in arrears in 2004 at 2% per quarter based upon the balance outstanding on the last day of the previous quarter.

A long-term loan of £5 million with the same bank is repayable on 1 January 2005 and carries an interest rate of 9%. Interest is payable annually in arrears on 31 December.

Both the loan and the overdraft are secured using a fixed charge on the land and buildings, but also by a floating charge on all other assets.

The bank is willing to arrange some finance for the new machinery by assisting the company in issuing a £2·5 million bond on 1 January 2004 carrying a zero rate of interest, but being redeemable at a premium of £1·5 million on 31 December 2007. It would be secured with a similar fixed and floating charge to the existing loans but, unlike the existing loans, it would also be secured over the personal assets of the directors.

The directors have made it clear that there can be no new equity finance raised in the foreseeable future.

The company's product

CLK Ltd makes a wide range of styles, colours and sizes of jackets.

The jackets supplied to Marlow plc will be the same type as those supplied to existing customers.

Cash flows

Of the sales to existing customers, 60% are expected to be settled on time (that is, within 30 days) and the remaining 40% in the following month. Marlow plc is expected to pay on time.

Leather and other materials cost £130 per jacket and suppliers are paid one month in arrears. Raw material purchases are made on a just-in-time basis each month sufficient to manufacture the goods for that month.

No stocks of finished goods have been held or will be held by CLK Ltd up to 1 January 2004, as existing customers are supplied from current production. From 1 January 2004, however, it has been decided to hold 1,000 jackets of finished goods stock at the end of each month up to and including June 2004 in order to supply Marlow plc reliably. However, when monthly demand from Marlow plc increases to 3,000 jackets per month in July 2004, finished goods stock will be increased to 2,000 jackets.

Annual rent has been constant for some time under a long-term contract and is expected to continue to be £240,000 per annum in future. It is payable quarterly in advance with the first payment being on 1 January each year.

In 2004, monthly wages are expected to be £200,000 payable at the end of each month. This is an increase from £180,000 in 2003 due to the new Marlow plc contract.

Fixed overheads will continue to be £30,000 per month, half of which are payable in the month they are incurred and half are payable one month later.

Memorandum from the Finance Director

As an assistant to the Finance Director, you have been asked to draft a response to her, to the following memorandum.

MEMORANDUM	*Approximate number of marks available for the points raised by the Finance Director*
To: C Ima (Finance Assistant) *From:* Jo Zhou (Finance Director) *Date:* 18 November 2003 *Subject:* Marlow contract – financing and cash flow	
I would like you to prepare a cash budget for 2004 on a **quarterly** basis assuming that the new Marlow contract and the agreed bond financing go ahead. It should show the expected net cash flow for each quarter and the cumulative budgeted cash surplus or overdraft at the end of each quarter. Ignore taxation payments in these calculations.	*(18 marks)*
Please use the cash budget that you have prepared and other available information to make an assessment of the impact of the new project on the company's overall liquidity and financial risk in both the short term and the long term.	*(12 marks)*
I have provided ***(exhibit 1)*** the projected balance sheet at the year end which ignores the new contract. ***Note to candidate: exhibit 1 is on the next page which is detachable***	

Required:

Prepare a draft response to the Finance Director's memorandum.

(Total = 30 marks)

Exhibit 1

Forecast balance sheet at 31 December 2003

	£000	*£000*	*£000*
Fixed assets			9,000
Current assets:			
Debtors		1,680	
Current liabilities:			
Overdraft	3,000		
Trade creditors:			
Suppliers	780		
Fixed overheads	15		
		(3,795)	
Net current (liabilities)			(2,115)
9% bank loan			(5,000)
Net assets			1,885
Share capital			1,500
Profit and loss account			385
			1,885

SECTION C – 50 MARKS

ANSWER TWO QUESTIONS ONLY

Question Three

ML plc is a large company that is listed on a major international stock exchange. Its shares are held mainly by large financial institutions which have, in general, favoured a generous dividend payout policy.

ML plc manufactures consumer electrical goods. This is a rapidly changing industry that requires significant new investment in developing new products every few years. Failure to make such investment is likely to result in reduced competitiveness.

The following data are relevant to the company for each of the years ended 30 September:

	2000	*2001*	*2002*	*2003*
£1 ordinary shares	300 million	300 million	300 million	450 million
Dividend	£50 million	£55 million	£55 million	£70 million
Retained profit for year	£200 million	£250 million	(£100 million)	£300 million
Total debt	£1,000 million	£1,100 million	£1,350 million	£850 million
Share price at 30 September	£4	£5	£6	£5
New investment in fixed assets	£190 million	£260 million	£100 million	£290 million

The company made a rights issue on 1 October 2002 of 1 for 2 at an issue price of £4 per share.

All debt carries interest at 10% per annum and any new debt is taken on at the end of each year. Prior to the year 2000, debt had stood at £1,000 million for some years.

The company has not made any take-overs and there has been no significant divestment of fixed assets.

Required:

(a) Suggest possible explanations as to why the share price has

- risen in the year to 30 September 2002 despite a loss being made;
- fallen in the year to 30 September 2003 despite a profit being made.

(4 marks)

(b) Using the information available in the table, calculate the following ratios for ML plc for both the year to 30 September 2000 and the year to 30 September 2003:

- Earnings per share;
- Price earnings ratio (using the share price at 30 September);
- Dividend cover.

Briefly explain each of the three types of ratio, commenting on any changes in the ratios you have calculated for ML plc.

(11 marks)

(c) Analyse the investment, financing and dividend decisions of ML plc and discuss how they interrelate. Refer to the table provided and use supporting calculations where appropriate.

(10 marks)

Ignore taxation.

(Total = 25 marks)

Question Four

The Translavian Ferry Company (TFC) operates four ferries. It wishes to acquire a further new ferry due to high demand for its services from passengers.

At a Board meeting, proposals were put forward for three different methods of financing the new ferry. It was made clear at the meeting that the company is unable to raise any further equity finance.

The ferry being acquired is identical under all three methods of financing. The price of the ferry will be $10 million at 1 January 2004 and it will have a ten-year life. After this time, the terms of the operating licence given by the Translavian government require that the ferry should be scrapped for health and safety reasons. The net proceeds are expected to be zero.

The company's accounting year end is 31 December. The company uses an annual net of tax discount rate of 7% to evaluate financing projects.

Method 1 – Long-term lease

The ferry can be leased with equal annual rentals of $2·8 million payable in arrears. The lease term would be 5 years, but this can be extended indefinitely, at the option of the company, at a nominal rent. The lease cannot be cancelled within the minimum lease term of 5 years. TFC would incur all the maintenance costs of $200,000 per year, payable at the end of each year of the life of the asset.

Method 2 – Short-term leases

The ferry can be leased using a series of separate annual contracts. The annual expected lease rental would be $1·7 million payable annually in advance, with the first payment being on 1 January 2004. Maintenance costs would be paid in full by the lessor. There is no obligation on either party to sign a new annual contract on the termination of the previous lease contract.

Method 3 – Loan

TFC's bank is willing to make a four-year loan of $10 million so that the ferry can be purchased. Annual repayments would be $3·154 million including both capital and interest. These payments are to be made at the end of each of the four years. The loan would be secured by fixed and floating charges over the company's assets.

Taxation

Taxation payments are made in the year after that in which the relevant transaction occurs. The tax rate is 30%. All lease payments, interest payments and maintenance charges are allowable in full for tax. Similarly, the purchase price of the ferry is allowable in full as a tax deduction in the year in which the expenditure is incurred. The company has sufficient profits from the existing ferries to ensure that tax allowances can be offset immediately.

The Marketing Director's view

After the meeting, the *Marketing Director* expressed concerns about the Board's decision to consider only the three funding methods proposed. He argued that: "All three methods involve financing charges. Yet we can obtain just about enough cash to fund the new ferry from our own resources, even though we may need to sell some of our short-term investments. Why should we pay interest and other finance charges to outsiders when we can fund the new ferry for free ourselves?"

Required:

(a) Calculate the pre-tax rate of interest implicit in the four-year loan under financing *Method 3* above.

(4 marks)

(b) Calculate the present values at 1 January 2004 of *Method 1* and of *Method 2* for financing the new ferry. Use the specified annual net of tax discount rate of 7%.

(9 marks)

(c) As a consultant, write a memorandum to the Board of TFC which:

(i) discusses the non-quantitative factors that should be considered when deciding which of the three methods of financing the new ferry is the most appropriate; and

(ii) evaluates the concerns of the Marketing Director.

(12 marks)

(Total = 25 marks)

Question Five

You have recently been appointed as a senior in the treasury department of PQR plc, which is a listed company. It manufactures a range of chemicals for use by paint manufacturers.

Your first project is to address two issues for the Head of the Treasury department.

(1) He is concerned that the company's surplus funds are not being invested to give the best balance between risk, liquidity and return.

(2) He is concerned about future interest rates and the period for which surplus funds should be invested, as the relationship between long-term and short-term interest rates in the market appears to have been somewhat volatile.

Background information

You discover the following background information.

Sales have increased rapidly in recent years and the company is extremely profitable with significant accumulated cash surpluses of £250 million. The Board plans to use most of the surplus cash balances to expand the fixed assets of the business in order to widen the range of chemicals sold, but it has, as yet, been unable to agree a strategy. The Chairman has indicated that any strategy decided upon is likely to require investment in several stages over the next few years but with some investment immediately following a decision.

Most of the surplus funds are currently invested in short-term bank deposits awaiting the Board's decision on future strategy.

Required:

(a) Identify the major types of investment available for short-term funds for PQR plc. Evaluate each type of investment in terms of its balance between risk, return and liquidity.

(13 marks)

(b) Write a memorandum to the Head of Treasury to explain the factors determining the relationship between short-term and long-term interest rates and discuss how this should affect the period for which surplus funds are invested by PQR plc.

(12 marks)

(Total = 25 marks)

Question Six

At your last staff appraisal, it was agreed that you would be given greater responsibility to manage your own department. You work for SCL Ltd, a wholesale supplier of building materials to industrial building companies.

Yesterday you received the following e-mail from the Financial Controller of SCL Ltd:

> I would like you to take up your new post in the company by assuming responsibility for the sales ledger section, which has been under-performing.
>
> First, the company as a whole is having a short-term cash flow problem and, amongst other things, we need some money from debtors quickly. I would like you to look at this.
>
> Second, as you know, we have some big customers and we need to look after them. However, some of them are taking excessive credit – significantly beyond the agreed period. This message seems to have spread, as more and more of our customers are doing this. It means debtors have grown excessively and I am not sure that we have the information systems to identify adequately the slow payers on a timely basis.
>
> Third, due to the expansion of the business, we are taking on a lot of new customers. This is obviously good, but we appear to be incurring high bad debts among these new companies. Some of them have been receiving goods from us and we have never had any payment. What is more, we have carried on sending them supplies.
>
> Please get back to me as soon as possible on these issues.

Background information

You determine the following information.

> Sales invoices are about £2 million per month. The usual credit period extended to customers is 60 days, but the average period being taken is 90 days. The overdraft rate is 9% per annum.
>
> A factoring company has offered a full factoring agreement without recourse on a permanent basis. The factor will charge a fee of 2·5% on total invoicing and will provide an immediate advance of 80% of invoiced amounts at an annual interest rate of 10%. Settlement of the remaining 20% will be after 60 days. SCL Ltd should avoid £300,000 a year in the administration costs of running the sales ledger if the factoring arrangement is taken up.
>
> SCL Ltd does not currently offer a cash discount for early settlement from debtors, but preliminary investigations reveal that customers, accounting for about 75% of sales, would take advantage of a 2·5% cash discount for settlement within 10 days, with the remainder taking an average of 90 days to pay.

Required:

(a) Calculate the annual net cost, in cash terms, of:

(i) the proposed factoring agreement; and

(ii) the cash discount scheme,

assuming they are adopted on a permanent basis and that there are 365 days in a year. State any other assumptions you have made. (Ignore taxation.)

Describe the issues, other than the annual net cost, that would need to be considered before taking a final decision between factoring and offering a cash discount.

(12 marks)

(b) Explain how SCL Ltd could most effectively prevent customers from taking excessive credit.

(6 marks)

(c) Examine the procedures by which SCL Ltd could reduce the levels of bad debts that arise among new customers as the business expands further.

(7 marks)

(Total = 25 marks)

End of paper