Intermediate Level

Finance

4

IFIN

25 May 2004

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 are provided which can be downloaded separately from the CIMA website.

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 What is the present value of an annuity of $4,000 per annum, receivable for 6 years, first payment received now, discounted at 5% per annum?

A $17,318.

B $20,320.

C $21,318.

D $24,320.

1.2 Examine the validity of the following statements:

Statement 1

Issues of convertible loan stock are likely to increase if share prices on the stock market are expected to fall.

Statement 2

Warrants attached to debt will normally mean that the debt can be issued by the company at a lower rate of interest compared to debt without warrants.

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

1.3 XYZ plc has just paid a dividend of \$0·121 per ordinary share. This compares to a level of \$0·11 per share a year ago. Similar growth is expected in future. The current share price is \$2·00 ex dividend.

What is the cost of equity for XYZ plc?

A 10·1%

B 16·1%

C 16·7%

D 28·3%

1.4 Calculate the gearing level (debt/equity) of PQ plc, based upon market values, given the following information:

Capital	*\$*	*Market valuation*
Bank loan	100,000	par
Debentures	200,000	\$120 ex interest for \$100 par value
Ordinary shares (\$0·50 each)	250,000	\$2·00 ex dividend per share
Reserves	212,500	

A 20%

B 28%

C 34%

D 48%

1.5 Given the following information, calculate the weighted average cost of capital (WACC) of BG plc:

	\$
5% irredeemable debt	300,000
Ordinary shares (\$0·25)	100,000
Reserves	200,000

Ordinary shares are valued at \$3·00 per share ex dividend, and have received a constant dividend of \$0·30 per share in recent years. Debt is valued ex interest at par. Corporation tax is paid at 30%.

A 6·75%

B 8·7%

C 8·85%

D 9·0%

1.6 Two deposit accounts pay interest as follows:

Deposit account X pays 2% per quarter interest.

Deposit account Z pays 9% per year interest.

Which of the following statements is true?

A X pays a higher annual interest rate than Z.

B Z pays a higher annual interest rate than X.

C X and Z pay the same annual rate.

D X will initially pay a lower annual rate than Z but will eventually pay a higher annual rate.

1.7 Identify which shape of yield curve reflects liquidity preference theory.

A A rising curve.

B A curve that rises and then falls.

C An inverse yield curve.

D A flat yield curve.

1.8 Identify which ONE of the following would be most useful for modelling cash flows consisting of some large, predictable, one-off items and some regular smaller items.

A The Miller-Orr model.

B The Baumol model.

C A cash budget.

D The EOQ model.

1.9 Examine the validity of the following statements:

Statement 1

The working capital cycle will lengthen if creditors are paid after a longer period.

Statement 2

The working capital cycle will shorten if debtors are more tightly controlled.

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

1.10 LD is preparing a cash flow forecast for the next quarter. LD manufactures and then sells goods on credit.

Which ONE of the following financial values will need amendment before it can be included in the cash flow forecast?

A Forecast sales turnover for the quarter of $2·2 million.

B A dividend payment of $210,000 made for dividends declared the previous year.

C The receipt of a new bank loan of $1 million.

D Disposal proceeds of $100,000 from the sale of a machine.

(Total = 20 marks)

End of Section A

SECTION B – 30 MARKS

ANSWER THIS QUESTION

Question Two

XYZ is a financial publishing and training company that helps to prepare students for professional exams. Its activities are concentrated in North America and Europe and include classroom tuition and book publishing. It has recently expanded its publishing activities into e-learning (mainly CD ROMs). Customers include professional firms, self-paying students, college lecturers, and bookshops throughout America and Europe, with growing export sales to the Far East. XYZ is carefully reviewing all aspects of its business and is currently focusing on working capital management in its publishing division. Recent data shows the following:

	XYZ		*Industry average of publishing companies*	*Industry average of publishing companies*
	Publishing	*Publishing*		
Year	*2002*	*2003*	*2002*	*2003*
	$million	*$million*		
Sales	30	31	10% growth in 2002	8% growth in 2003
Cost of sales	20 *	22 *	70% of sales	70% of sales
Average stock	18 **	19 **	75 days based on cost of sales	70 days based on cost of sales
Average debtors	10	11	62 days	61 days
Average creditors	3	3	70 days	73 days
Bad debts	1	1·5	0·5% of sales	0·5% of sales
Stock write off	3	4	13% of sales	13% of sales

* 50% of the cost of sales relates to print costs and cost of sales excludes any stock write-off cost or bad debt cost.

** If on-demand printing were introduced, physical stocks would be expected to fall by 80% from their current level.

(On-demand printing is where books are only printed when orders are received. The current method is to print for the estimated demand over the following 12 months.)

The cost of capital is 5%.

At a recent Board Meeting the following comments were made on how to maximise the use of working capital:

Director of Publishing:

"Stock control has been a big problem. We have been particularly badly hit in 2003 by a large number of changes in syllabi for the various professional bodies. This has made it difficult to predict demand when setting print quantities. Changing syllabi has also resulted in a large number of books needing to be re-printed at higher per unit costs while other books were substantially overprinted, requiring large quantities of books to be thrown away. On-demand printing, while costing 20% more to print compared with current printing, may be worth considering. To manage the information needs of on-demand printing an upgraded computer system would be needed costing $0·5 million per annum."

Sales Director:

"I think our debtor position needs some attention. I would recommend extra staffing in credit control to reduce debtor days and the use of aggressive legal action in an attempt to reduce our bad debt levels. The extra staffing we would need to reduce the debtor days would cost $250,000 per annum. By putting this resource in place, I estimate that our debtor days would fall to the 2003 industry average. Estimating the cost of taking legal action is more difficult, but current estimates show that an investment of about $200,000 per annum would reduce bad debts to 0·4% of sales."

XYZ's cash resources have risen from $5 million to $10 million over the last year. The financial advisers of XYZ have recommended two securities in which the company could invest its surplus cash:

Security 1: shares in a small fast-growing company in an unrelated industry to XYZ and listed on the stock exchange. The shares in this company have a beta factor of 1·7.

Security 2: 2·5% index linked treasury stock. Both the interest and the eventual redemption value are linked to inflation.

The Finance Director has asked you to produce a draft response to the following memorandum received from the Chief Executive.

MEMORANDUM	*Approximate number of marks available for the points raised by the Chief Executive*
To: Finance Director *From:* Chief Executive *Date:* 25 May 2004 *Subject:* Working capital	
I need your guidance on how to manage our working capital. I would like a report on the following:	
(a) Compare the stock control, debtor control and gross margin record for our Publishing Division with the industry average and interpret your results.	*(8 marks)* *[5 marks of which are for calculations]*
(b) Advise on whether we would have been better off in 2003 to have printed using on-demand printing.	*(8 marks)* *[6 marks of which are for calculations]*
(c) Evaluate the recommendations of the Sales Director. (Use 2003 data and assume that all sales are on credit.)	*(6 marks)* *[4 marks of which are for calculations]*
(d) Explain the criteria for investing short-term cash surpluses and set out the benefits and shortcomings of the two securities recommended by our financial advisers. Suggest, with reasons, any short-term investments *you* would recommend for XYZ.	*(8 marks)*

Required:

Prepare a draft response to the Chief Executive's memorandum.

(Total = 30 marks)

End of Section B

SECTION C – 50 MARKS

ANSWER TWO QUESTIONS ONLY

Question Three

TB, a national retailer of sports goods, is trying to decide between two new suppliers of tennis balls. The previous supplier has stopped distributing in TB's area. TB experiences one main demand peak when a major annual tennis competition is being held.

Supplier A operates in the same country as TB. Using supplier B will require TB to import by boat. Deliveries by boat can take up to one month. The company currently has a small warehouse that is at capacity. Most stock items that TB holds do not deteriorate. TB ideally tries not to hold tennis balls for more than 6 months since some players believe that tennis ball performance deteriorates over time.

Each supplier offers different terms:

Supplier A charges $1 per ball and an order charge of $10.

Supplier B charges $0·85 per ball and an order charge of $500.

Demand per year is 10,000. Variable holding costs reflecting warehousing labour and heating costs are estimated to be $0·10 per ball per annum for supplier A and $0·085 for supplier B (due to differences in the size of packaging) and the cost of capital is 10%.

Required:

(a) Using the Economic Order Quantity (EOQ) formula, calculate the optimal order quantity for each supplier.

(4 marks)

(b) Calculate the total costs relating to tennis balls of using each supplier over a year and identify which supplier will cost TB the least overall.

(7 marks)

(c) Explain what concerns you have with using the EOQ formula for setting order quantities on tennis balls, as above.

(4 marks)

(d) Analyse the other practical considerations that TB needs to take into account prior to a final decision being taken on which supplier to use.

(4 marks)

(e) If supplier B requested payment with order, identify how TB could finance this short-term funding requirement.

(6 marks)

(Total = 25 marks)

Question Four

ABC is a large professional service company listed on a major international stock exchange. ABC has recently appointed a new Finance Director who is concerned about the financing of the company.

Forecast balance sheet at 31 May 2004:

	$ million	*$ million*
Fixed assets		555
Current assets	195	
Current liabilities	(50)	
		145
Debentures 7% annual coupon (nominal value) [redeemable 31 May 2008 at par]	(150)	
Bank loans	(100)	
		(250)
		450
Issued share capital (par value 25 cents)		200
Reserves		250
Shareholder funds		450

On 31 May 2004, market values are $107 per cent ex interest for debentures and $0·75 ex dividend for each share. Interest on the bank loan is 5% per annum and the loans are not scheduled to be repaid before 31 May 2007.

The following earnings and closing shareholder funds have been forecast for the next three years:

Year ending	*31 May 2005*	*31 May 2006*	*31 May 2007*
	$ million	*$ million*	*$ million*
Earnings before interest and tax (EBIT)	58·0	50·0	54·0
Closing shareholder funds at year end	446·8	437·9	431·9

Debenture covenants

There are two covenants relating to the debentures, as follows:

> "At no time will the debt ratio of prior charge capital/shareholder funds exceed 60%, based upon book values."
> "The ratio of EBIT/total interest payable shall not fall below 3·5 times."

Restructuring funding

The Finance Director is concerned that the company is close to breaching debenture covenants and is considering ways of restructuring the company's funding to eliminate this risk.

Two alternatives are being considered.

One scheme is to redeem the debentures on 31 May 2004 at market value, funded by a new bank loan. The company's bank has quoted an annual coupon of 5% for a loan maturing on 31 May 2008.

An alternative scheme, being recommended by ABC's merchant bank, is a rights issue of 1 for 5 shares to raise $100 million of funds to repay the current bank loan.

Assume that tax is recoverable at 30% on interest payments at the time that the interest is paid and that all interest payments are made annually in arrears. Ignore any taxation implications of the redemption premium on the debenture.

Required:

(a) Calculate gearing and interest cover ratios for the years ending 31 May 2005 to 31 May 2007, and indicate whether ABC is likely to breach either of the two debenture covenants over the next three years. (Ignore any restructuring funding proposals.)

(4 marks)

(b) Calculate the cost of debt for the existing debenture based on the current market value on 31 May 2004 and advise the Finance Director whether or not it is likely to be cheaper to redeem the debenture with a bank loan.
Identify what other factors would need to be taken into account when deciding whether to redeem the debenture with a bank loan. (No further calculations are required.)

(10 marks)

(c) Calculate the issue price and ex-rights price of the proposed rights issue. Discuss the advantages of the merchant bank's recommendation to repay the bank loan by raising new equity finance compared with the merits of redeeming the debentures by entering into a new bank loan.
(*Note:* No further gearing or interest cover calculations are required.)

(11 marks)

(Total = 25 marks)

Question Five

LS is a mature consumer goods company with limited scope for turnover growth in its stable market. The following information is known about the company and its main competitors:

	LS	*Competitor A*	*Competitor B*
Equity beta	0·5	0·9	Not available
Actual return on equity per annum	8%	9%	11% (estimate)
Risk free return per annum	5%	5%	5%
Market return per annum	10%	10%	10%
Current share price	$2	$3	Not available
Historic turnover growth per annum	3%	5%	Not available

A recent press announcement from competitor A stated: "We believe in delivering a return above the norm in our sector of the market and are pleased that we have delivered returns of 1% more than our main competitor. Investors wanting a high return in exciting markets need look no further."

It is also known that competitor B is looking for financial backing to commence trading and is predicting average annual returns of 11% to equity investors. The company will also be funded with high levels of debt. After five years, the intention is to float the company on the main stock exchange.

The Chief Executive of LS is concerned about these developments and is expecting some shareholders of LS ask some difficult questions. The Chief Executive has made the following three comments to the management team in response to the current situation:

> "I have heard that the capital asset pricing model has some limitations, for example it only looks at one part of risk, the risk related to the market. Don't you think we should consider total risk?"
>
> "Shouldn't we be comparing actual returns on equity with the weighted average cost of capital rather than with the required return calculated by using the capital asset pricing model?"
>
> "I've heard that our stock market is semi-strong. Is that why our share price is low? If our stock market were strong, would our share price be higher? Can we do anything about our share price if we think it is undervalued?"

Required:

You are a member of the management team. To assist the Chief Executive, set out answers to the following:

(a) Calculate the required return on equity for both LS and competitor A based on CAPM and comment on the results. Compare the actual return with the required return in each case and advise whether LS or competitor A is providing the best performance.

(8 marks)

(b) Assuming the estimated return of 11% accurately reflects the level of systematic risk of competitor B, calculate its beta factor. Discuss the potential risks for a shareholder of investing in competitor B.

(7 marks)

(c) Discuss each of the Chief Executive's three comments.

(10 marks)

(Total = 25 marks)

Question Six

Two senior executives have recently met on a course where they were being taught about setting financial objectives and the three key policy decisions listed below:

- the investment decision;
- the financing decision;
- the dividend decision.

One of the executives works for a large healthcare company listed on the stock exchange, the other works in the public sector health service where all services are provided free of charge to users at the point of delivery. The public sector health service is financed through an annual cash budget funded entirely by taxes and government borrowing and has no treasury department.

The following extracts are from their conversation after the course:

Healthcare company executive:

> "Life must be so much easier for you. We have to raise finance from various sources to fund any new investment. We also have to ensure that we pay a dividend that keeps our shareholders happy."

Public sector health service executive:

> "I don't think you would find a cash-constrained life, as we experience it, very easy. I would like to be able to raise money on the stock market to fund our business requirements. I would also much prefer to have my own treasury department to go to at any time rather than having to wait and see what we have been allocated in our annual budget. I expect you can also make a good profit out of a treasury department."

Required:

(a) Identify in which of the three key policy decisions listed above the public sector health service would have **least** involvement, and explain why. Additionally, identify in which of the three key policy decisions listed above a treasury department would have **most** involvement, and explain why.

(4 marks)

(b) Describe each of the three key policy decisions listed and discuss the importance of each of them to the shareholders in the healthcare company.

(6 marks)

(c) Explain how a treasury department can make a profit and explain the possible benefits and potential problems of setting up a treasury department as a profit centre.

(8 marks)

(d) Describe the main methods of raising new equity finance and recommend the most appropriate method for the healthcare company to raise equity finance on the stock market.

(7 marks)

(Total = 25 marks)

End of paper