Diploma in Financial Management

PAPER DB1, INCORPORATING SUBJECT AREAS
- **FINANCIAL STRATEGY**
- **RISK MANAGEMENT**

Module B

TUESDAY 6 DECEMBER 2005

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 12%

n	12%
0	1·00
1	0·89
2	0·80
3	0·71
4	0·64
5	0·57

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

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

1 Consider the following two statements concerning convertible loan stock.

(i) The conversion value of convertible loan stock is normally below the face value of the loan stock at the time of issue.
(ii) The coupon rate for convertible loan stock is normally lower than the coupon rate for non-convertible loan stock.

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

	Statement (i)	Statement (ii)
A	True	True
B	True	False
C	False	True
D	False	False

2 Selene plc has ordinary shares in issue and the directors of the company have decided to make a one-for-three rights issue. The current market value of each share is £8·00 and the rights shares will be offered at a discount of 40% on this current market value.

What will be the theoretical value of the rights attached to each original share?

A £0·60

B £0·80

C £1·80

D £2·40

3 The forecast balance sheet of Charon plc for the forthcoming year is based on the following relationships:

Current ratio	2:1
Sales: current assets	5:1
Acid-test ratio	1·5:1

If sales for the coming year are expected to be £30 million, what is the value of stocks that will appear in the forecast balance sheet?

A £1·5m

B £3·0m

C £4·5m

D £10·5m

4 **Which one of the following equations describes the operating cash cycle?**

A Average stock turnover period + average creditor payment period – average debt collection period

B Average stock turnover period + average debt collection period – average creditor payment period

C Average cash balance + average debt collection period – average creditor payment period

D Average cash balance – average debt collection period + average creditor payment period

5 Attis plc has reported pre-tax profits of £48 million and after-tax profits of £32 million for the year that has just ended. The company expects pre-tax and after-tax profits to increase by a further 25% in the forthcoming year and then to stabilise at this figure. The company has 80 million £0·50 ordinary shares in issue and the market capitalisation of the company is £320 million. The dividend cover ratio of the company is held at a constant 2·5 times.

Which one of the following is the expected rate of return from the ordinary shares?

A 4·0%

B 5·0%

C 7·5%

D 40·0%

6 Consider the following statements concerning the issue of shares.

1. A bonus issue raises finance through an offer of shares to existing shareholders.
2. A placing of shares makes shares directly available to the general public.
3. An offer for subscription is an invitation to the general public to subscribe for shares not yet in issue.
4. A rights issue raises finance through an offer of shares to existing shareholders.

Which two of the above statements are correct?

A 1 and 2

B 1 and 3

C 2 and 4

D 3 and 4

7 The directors of Hybris plc are considering the following investment projects:

	Initial outlay £000	**Total present value £000**
Project – Leo	450	560
Project – Taurus	285	370
Project – Pisces	240	330

The directors have a limited capital expenditure budget and cannot invest in all profitable projects. All projects are divisible.

Assuming that the company wishes to maximise the wealth of its shareholders, what should be the order of priority for the three projects?

	Order of priority		
	Leo	Taurus	Pisces
A	1	3	2
B	1	2	3
C	3	2	1
D	2	3	1

8 A company has just issued warrants that can be used to subscribe to ordinary shares on a one-for-one basis at a specified future date. The warrants have been issued at £1 each and the warrant conversion premium is £0·80.

If the exercise price of a warrant is £4·00, what is the current market price of a share in the company?

A £2·20

B £3·80

C £4·20

D £5·80

9 A business keeps an item in stock for which demand is 30,000 units per year. The cost of placing an order for the item is £40 and the cost of holding one unit of the item is £0·60 per year. The business uses the economic order quantity (EOQ) approach to derive the optimal order quantity for the item. Demand for the item is even throughout the year.

What is the combined annual cost of stock holding and stock ordering for the item?

A £1,200

B £1,800

C £40,600

D £41,200

10 Consider the following statements concerning investment appraisal methods.

1. The accounting rate of return method ignores the time value of money.
2. The internal rate of return method ignores the relative size of investments when ranking investment proposals.
3. The net present value method ignores the required returns from investors when ranking investment proposals.
4. The payback method ignores non-operating cash flows relating to an investment proposal when calculating the payback period.

Which two of the above statements are correct?

A 1 and 2

B 1 and 3

C 2 and 4

D 3 and 4

11 Consider the following statements concerning financial options.

(i) An interest rate cap is a series of lenders' options on a notional loan.
(ii) An American-style option may be exercised before the expiry date of the option.

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

	Statement (i)	Statement (ii)
A	True	True
B	True	False
C	False	True
D	False	False

12 Helios plc has an outstanding loan of £50 million with a floating rate of interest of LIBOR + 0·8%, which is payable annually. To protect itself against possible fluctuations in interest rates, the company has taken a LIBOR cap at 5·5% per year for an annual premium of 0·6%. The company has also agreed to sell a LIBOR floor at 4·3% interest per year for an annual premium of 0·4%.

If the LIBOR rate is 4·0% for the next interest period, what will be the effective interest rate paid by Helios plc?

A 4·7%

B 5·0%

C 5·3%

D 5·8%

13 Consider the following:

The directors' report, which is contained within the annual report and accounts of all listed companies, should include:

(i) A statement that the company is able to continue as a going concern.
(ii) A statement on the effectiveness of internal controls.

According to the Combined Code, which one of the following combinations (true/false) is correct?

	Statement	
	(i)	**(ii)**
A	True	True
B	True	False
C	False	True
D	False	False

14 The Modigliani and Miller (with taxes) proposition concerning capital gearing states that as the level of capital gearing of a business increases from zero, there will be an initial increase in the:

1. cost of loan capital
2. weighted average cost of capital
3. value of the business
4. cost of equity capital

Which two of the above statements are correct?

A 1 and 2

B 1 and 4

C 2 and 3

D 3 and 4

15 Metis plc has ordinary shares in issue that have a beta of 1·4 and which receive a constant dividend of 50 pence per ordinary share. The risk-free rate of return is 5% and the current market rate of return is 12%.

What is the predicted market value of each ordinary share?

A £2·98

B £3·38

C £4·17

D £5·10

16 A US exporter sold goods to a Spanish importer. The goods were invoiced in euros and the invoice was paid two months after it was issued. During the period between the issue of the invoice and its payment, the US$ strengthened against the euro.

Assuming that neither the US exporter nor the Spanish importer hedge against foreign exchange risk, what was the foreign exchange gain or loss arising from this transaction for each party?

	US exporter	Spanish importer
A	No gain or loss	Gain
B	Gain	No gain or loss
C	No gain or loss	Loss
D	Loss	No gain or loss

17 A US company has just purchased goods from a UK supplier for £500,000. Payment is due in three months' time and the US company wishes to hedge its exposure to exchange rate risk. The following ways of dealing with the exchange rate risk have been suggested:

1. Buy sterling futures now and sell sterling futures in three months' time
2. Buy sterling call options now.
3. Sell sterling futures now and buy sterling futures in three months' time
4. Buy sterling put options now

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

A 1 and 2

B 1 and 3

C 2 and 3

D 3 and 4

18 Non-executive directors should comprise:

(i) At least one quarter of the membership of the board of directors of large companies
(ii) The majority of the membership of the audit committee

According to the Combined Code, which one of the following combinations (true/false) of the above statements is correct?

	Statement (i)	Statement (ii)
A	True	True
B	True	False
C	False	True
D	False	False

19 Consider the following statements concerning risk:

(i) For risks that have low frequency but a high severity of loss, insurance is usually appropriate.
(ii) For risks that have high frequency and a low severity of loss, self-insurance is usually appropriate.

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

	Statement (i)	Statement (ii)
A	True	True
B	True	False
C	False	True
D	False	False

20 A risk averse investor is considering four mutually exclusive investments, which have the following characteristics:

	Expected return	Standard deviation of expected returns
Alpha	15%	5%
Beta	14%	8%
Gamma	25%	10%
Delta	12%	5%

Which two of the above investments will the investor immediately REJECT?

A Alpha and Beta

B Alpha and Gamma

C Gamma and Delta

D Beta and Delta

(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 Caerus plc is a medical research business that has recently patented a device which enables medical professionals to administer vaccinations without the use of needles. The new device has incurred total costs to date of £4·5 million, of which £0·5 million relates to consultancy fees that are due for payment in three months' time. The device is now fully developed and ready to launch; however, the directors of the company have still to decide which of three mutually exclusive options available should be pursued. These options are as follows:

(i) The company could manufacture and sell the device itself. This would involve immediately purchasing the necessary plant and equipment at a cost of £8·5 million, which would then be installed in part of the company's premises that is currently unused. Production of the new device could begin immediately and over the expected four-year life of the device, sales are forecast to be as follows:

	Year 1	Year 2	Year 3	Year 4
Forecast sales (000's units)	450	650	300	200
Expected selling price per unit	£35	£35	£30	£25

This option would require an immediate injection of working capital of £1·2 million, which could be released at the end of the expected life of the device. The plant and equipment would have no further use at the end of the four-year period and could be sold for an estimated £2·0 million at that point. The variable costs associated with producing and selling the device are estimated at £6 per unit and estimated annual fixed costs are as follows:

	£m
Manufacturing	4·4
Selling, administration and distribution	3·2
	7·6

Manufacturing fixed costs include an annual depreciation charge of £1·5 million.

(ii) The company could allow another company to manufacture the device. Under this option, sales volumes are expected to be 20% higher than those predicted under option (i) above as greater manufacturing capacity will be available. The terms of a proposed agreement with the manufacturer requires that Caerus plc provides the manufacturer with an interest-free loan of £3 million immediately in order to help re-equip a factory and that this amount will be repaid in three years' time. The terms also state that each device will be purchased from the manufacturer for £30 and that extended credit will be available so that payment to the manufacturer will be made one year after sale. Selling, administration and distribution costs of Caerus plc would be reduced by £0·4 million per year under this option.

(iii) The company could sell the patent rights to a large international pharmaceutical business for £7·5 milion immediately.

Caerus plc has a cost of capital of 12%.

Required:

(a) Calculate the net present value of each option available to Caerus plc. (15 marks)

(b) Briefly evaluate each of the options available and state which one should be selected and why. (5 marks)

(20 marks)

2 Hecate plc operates various manufacturing and retail operations throughout the UK and has 400 million £0·25 ordinary shares in issue. For the year that has just ended, the directors reported total after-tax profits of £300 million and the P/E ratio of the company is 11·4 times. The company has developed sophisticated computer software over the years to aid its financial and logistical decisions and it is aware of the commercial potential of this software. Three years ago, the software and systems division of the company was formed into a subsidiary company, Elpis plc. The subsidiary continues to provide computer services to the parent company but also offers consultancy and software solutions to other large companies, particularly within the retail industry. Since its inception, Elpis plc has been trading profitably and, for the year that has just ended, it contributed £40 million of the total after-tax profits of Hecate plc.

Hecate plc is now considering 'spinning-off' the subsidiary and to have it separately listed on the Stock Exchange. It is proposed that Elpis plc will be floated with 64 million £0·25 ordinary shares in issue and that, of this total, the shareholders of Hecate plc will receive one ordinary share in Elpis plc for every eight ordinary shares held in Hecate plc. The P/E ratio of Hecate plc is expected to reduce to 11·0 times as a result of the 'spin-off' but as the newly-listed company is expected to attract considerable interest, investment analysts believe that a P/E ratio for the company of either 17 times or 18 times will be achieved.

Ignore taxation.

Required:

(a) **Suggest reasons why Hecate plc may wish to 'spin-off' part of its operations.** (8 marks)

(b) **Discuss the possible disadvantages of a 'spin-off' for the shareholders of Hecate plc.** (4 marks)

(c) **Calculate the likely effect of the proposed 'spin-off' on the wealth of a shareholder holding 10,000 ordinary shares in Hecate plc, assuming that Elpis plc trades at a P/E ratio of:**

(i) 17 times, and
(ii) 18 times

and briefly comment on your findings. (8 marks)

(20 marks)

3 Triton Holdings plc is a large conglomerate. The directors of the company are currently discussing a new growth strategy that would involve acquiring listed companies which have undervalued shares. The directors are not convinced by claims that the stock market is efficient and believe that opportunities exist to buy companies cheaply.

Required:

(a) **Explain the term 'efficient' in the context of stock markets and describe the different levels of stock market efficiency that may exist.** (8 marks)

(b) **Briefly outline the role that financial analysts and investment managers may play in creating an efficient stock market.** (4 marks)

(c) **Discuss the evidence that exists to support the views of the directors and state what advice you would give the directors concerning the proposed strategy.** (8 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 During the past three years, Cerberus plc, a large defence contractor, has been adversely affected by a series of unforeseen incidents. These incidents resulted in major losses being incurred and brought the company to the brink of collapse. Although the threat of company failure now appears to have receded, the shareholders, who have seen their investment in the company decrease dramatically, recently replaced the board of directors. The new board is determined to ensure that the company avoids any such problem in the future and believes that this can be done by adopting a more systematic approach to risk management. It has decided to appoint a chief risk officer, who will become a senior member of the management team and who will be charged with implementing risk management processes throughout the business.

Required:

(a) Identify and discuss the key factors that the chief risk officer should take into account to ensure the successful implementation of risk management processes within the company. (12 marks)

(b) Explain how the implementation of risk management processes may help to increase shareholder value. (8 marks)

(20 marks)

5 Nereus plc and Janus plc are brick manufacturers that have the same business and operational risk characteristics. Financial information relating to each company is as follows:

	Nereus plc	Janus plc
	£m	£m
£0·25 ordinary shares	12·5	25·0
Reserves	25·0	60·0
	37·5	85·0
6% Loan capital	20·0	–
	57·5	85·0
Profits before interest charges	£11·0m	£22·0m
Current market prices:		
Ordinary shares	£1·63	£2·05
Loan capital	£90 per £100 nominal	–

Nereus plc has recently had its share and loan capital listed on the London Stock Exchange, and since the listing, the directors have taken a keen interest in the price movements of these securities. The directors believe that, for the loan capital, the market price has reached an equilibrium level. However, they do not believe that this is the case for the ordinary shares. They are concerned that the shares may be undervalued and that this may, in turn, increase the vulnerability of the company to a hostile takeover bid.

Janus plc is a well-established company and it is generally believed that the market price of the company's ordinary shares reflect their equilibrium price. However, the directors of Janus plc consider that ordinary shareholders might benefit from an increase in the level of the company's gearing. Consequently, there is a proposal to issue sufficient 6% irredeemable loan capital for cash to enable the company to purchase and cancel 40 million ordinary shares.

Assume a rate of corporation tax of 25%.

Required:

(a) Using the assumption of Modigliani and Miller (including taxation):

(i) calculate the equilibrium price of an ordinary share in Nereus plc; and

(ii) calculate the effect of the proposed change in capital structure on the market value of an ordinary share in Janus plc. (10 marks)

(b) Briefly comment on the results in (a) above. (4 marks)

(c) Identify and discuss possible weaknesses in the assumptions underpinning the views of Modigliani and Miller (including taxation) on valuation and capital structure. (6 marks)

(20 marks)

6 'The board of directors is the central instrument of corporate governance within a public listed company and non-executive directors have an important contribution to make in carrying out the tasks of the board.'

Required:

(a) Identify and discuss the key tasks of the board of directors of a listed public company. (9 marks)

(b) Discuss the particular contribution that non-executive directors may provide in carrying out the tasks identified in (a) above. (11 marks)

(20 marks)

End of Question Paper