PROFESSIONAL LEVEL EXAMINATION

SEPTEMBER 2016

Mock Exam 1

(2½ hours)

FINANCIAL MANAGEMENT

This paper consists of **THREE** questions (100 marks).

1. Ensure your candidate details are on the front of your answer booklet. You will be given time to sign, date and print your name on the answer booklet, and to enter your candidate number on this question paper. You may not write anything else until the exam starts.
2. Answer each question in black ballpoint pen only.
3. Answers to each question must begin on a new page and must be clearly numbered Use both sides of the paper in your answer booklet.
4. The examiner will take account of the way in which answers are presented.
5. When the assessment is declared closed, you must stop writing immediately. If you continue to write (even completing your candidate details on a continuation booklet), it will be classed as misconduct.

A Formula Sheet and Discount Tables are provided with this examination paper.

IMPORTANT

Question papers contain confidential information and must NOT be removed from the examination hall.

DO NOT TURN OVER UNTIL YOU ARE INSTRUCTED TO BEGIN WORK

You MUST enter your candidate number in this box.

1 Boxer plc (Boxer) runs a network of garden centres. The company also has a small division (Hire-it) that provides a hire service for some garden maintenance equipment, such as hedge cutters and rotovators.

Boxer's directors have been sceptical about the Hire-it operation. It has not been very profitable. It is believed by the directors that it would need to be expanded substantially to make it viable, but they are reluctant to do so, preferring to expand their core garden centre business.

Seeing a business opportunity and a probable means of safeguarding an otherwise uncertain future, a group of senior Hire-it managers has approached the board with a management buy-out proposal. Since the buy-out team has yet to look for financing and it will take time to set up a deal, the team suggested that the buy-out, should it occur, would take place on 31 December 2016. The board sees the buy-out proposal as an opportunity to deal definitively with Hire-it.

Boxer has provisionally agreed to the buy-out provided that it receives, from the buy-out team, the present value, at 31 December 2016, of the projected incremental cash flows of Hire-it over the three years starting the following day and discounted at a suitable cost of capital. This period of time was selected because Hire-it, were it to remain part of Boxer, would make an investment in some new equipment on 1 January 2017. This equipment normally has a life of about three years.

You have been asked to calculate the buy-out price and you have found the following information.

(1) The investment in new equipment on 1 January 2017 would total £1 million. At the end of 2019 this will be disposed of for a negligible sum.

These assets will attract capital allowances, but will be excluded from the general pool. This means that they attract 18% (reducing balance) tax allowances in the year of acquisition and in every subsequent year of being owned by the company, except the last year. In the last year, the difference between the assets' written down value for tax purposes and their disposal proceeds will either be allowed to the company as an additional expense attracting tax relief, if the disposal proceeds are less than the written down value, or be charged to the company as taxable income, if the disposal proceeds are more than the written down value.

The existing Hire-it equipment would be discarded at the end of the 2016 season, irrespective of the buy-out proposal.

(2) Annual revenues from Hire-it's operations are hard to predict. In the past ten years they have varied between £1.5 million and £1 million, apparently at random. The Boxer directors and the buy-out team agree that the past ten years are as good a guide to the next three as is likely to be found.

All of these revenues are expressed in 1 January 2017 prices.

(3) Also over the past ten years, variable costs have sometimes been 20% and sometimes 25% of revenues. This percentage seems to vary at random and is not dependent on the size of the revenues earned by the company.

(4) Fixed costs, including a share of Boxer's head office costs equal to £0.2 million, average about £0.5 million.

(5) Operating cash flows should be assumed to occur at the end of the relevant year.

(6) The working capital tied up in Hire-it's operations is about 10% of the sales revenue. This must be in place by the start of the year concerned. It will be released at the end of operations.

(7) Boxer pays tax at the rate of 21% and it has an accounting year end of 31 December. Assume that tax is payable at the end of the year concerned.

(8) Inflation is expected to average 3% per annum for the foreseeable future for all costs and revenues. All financial amounts mentioned above are expressed at 1 January 2017 prices.

(9) The appropriate real discount rates for the Boxer business have been estimated at 10% for 2017, 11% for 2018 and 12% for 2019.

Requirements

1.1 Calculate, using money cash flows, for **both** the best case and worst case scenarios, the present values of the Hire-it operation as the basis of the price to the buy-out team. **(18 marks)**

1.2 Suggest to the directors and buy-out team additional methods or alternative calculations that could be used for dealing with the risks and uncertainties that are inherent in net present value estimates (other than best and worst case scenarios), and outline your recommended approach.

Note. Further calculations are not required. **(6 marks)**

1.3 Outline the issues that the buy-out team needs to consider if it wishes to proceed to a deal, including those concerning the calculation of the price and possible sources of finance and advice. **(6 marks)**

1.4 Explain how Hire-it's level of gearing, following the buy-out, will influence its weighted average cost of capital. **(5 marks)**

Total: 35 marks

2.1 Styx plc is an all equity financed company. It has in issue 7,500,000 shares. These are currently quoted at £4.40 each cum-div. The dividend proposed for the current year is 40p per share. No increase in this dividend is anticipated unless new projects are accepted.

One such project is currently under consideration. This project would involve investing £750,000 immediately. It would generate a cash surplus of £125,000 in one year's time and annually thereafter in perpetuity. The project cash flows are known to the market, and do not alter the company's risk. All of the project cash flows would be paid as dividends.

The company's cost of equity (k_e) is 10%.

The NPV of the project is (£750,000) + £125,000/0.1 = £500,000

Three alternative sources of finance are being considered:

- A reduction in the current year's dividend to 30p per share, so as to release £750,000 of internally-generated funds.
- A rights issue on a one-for-ten basis at £1 per share.
- A new issue of shares. These would be identical to existing ordinary shares and would first rank for dividend in one year's time.

Requirement

Demonstrate that the increase in the existing shareholders' wealth under the first two financing alternatives is the same and discuss the impact on shareholder wealth of the third financing alternative (with calculations to support your discussion as appropriate). **(10 marks)**

Ignore taxation and issue costs.

2.2 Cuando is an online retailer of books, CDs and DVDs. The company was set up five years ago by a wealthy entrepreneur, David Nile, and has now grown to the point where the Board of Directors has decided that a listing should be sought on the local stock exchange. David Nile owns 80 per cent of the ordinary shares and has agreed to sell all of these as part of the public offering.

Recently, the Board of Directors began to debate the future dividend policy of the company, assuming that the stock exchange listing would be successful. However, there was a clear divergence of views. The Chairman felt that the current dividend policy was unacceptable and needed to be changed. He argued that the company had been investing heavily in its distribution methods and in advertising in the early years and that dividend policy had not been a pressing issue. However, the proposed listing must now lead to a reconsideration of the importance of dividends. The Chief Operating Officer, on the other hand, felt that the Chairman's concerns were unfounded as the pattern of dividends had no effect on shareholder wealth.

Information concerning the company since it was first set up is as follows:

Year ended 30 June	*Net profits after taxation*	*Ordinary dividends*	*Ordinary shares in issue*
	£'000	£'000	'000
2012	650	320	800
2013	520	150	1,000
2014	760	480	1,000
2015	1,240	600	1,500
2016	1,450	540	1,500

Requirements

(a) Evaluate the views expressed by the Chairman and by the Chief Operating Officer. **(11 marks)**

(b) Analyse the dividend policy that has been pursued to date and discuss whether a change would be in the interests of shareholders. **(8 marks)**

(c) Discuss the key points that should be taken into account when establishing an appropriate dividend policy for Cuando. **(6 marks)**

Total: 35 marks

3 Cromwell plc is a UK based company which frequently trades in high-tech goods with USA-based companies. Historically the company hasn't hedged its currency transactions, but because of recent exchange rate volatility, currency hedging is now being considered.

The following imports and exports are due in six months' time, designated in the currencies shown:

	Cromwell exports to	*Cromwell imports from*
Company A	£150,000	$1,000,000
Company B	Nil	$700,000
Company C	$500,000	£400,000

Assume that it is now 30 September and that futures and options contracts mature at the relevant month end.

Exchange rates

	$/£
Spot	1.9966 – 2.0020
3 months forward	1.9876 – 1.9930
6 months forward	1.9711 – 1.9755

Annual borrowing and investing interest rates

Sterling	6.5% – 5.2%
Dollar	5.0% – 3.0%

Sterling futures prices (contract size £62,500)

December $1.9855/£

March $1.9796/£

Currency option prices

Contract size £31,250 (premiums in cents per pound)

	Calls		*Puts*	
Exercise price	*December*	*March*	*December*	*March*
$1.9600	4.80	5.99	1.65	2.99
$1.9800	3.58	4.75	2.41	4.40
$2.0000	2.31	3.60	3.45	6.71

Requirements

3.1 Show how the six-month currency risk could be managed using:

(a) Forward market hedging **(3 marks)**

(b) Money market hedging **(4 marks)**

(c) Currency futures (hedging to the nearest whole contract). Illustrate the outcome if the spot rate and futures price in 6 months are $1.9500 **(4 marks)**

(d) Currency options so as to guarantee no worse an exchange rate than the current spot rate and hedging to the nearest whole contract. Illustrate the outcome if the spot rate in 6 months is $1.9700/£ **(5 marks)**

3.2 Explain what is meant by **'**economic currency exposure**'** and suggest how this risk can be managed by Cromwell. **(3 marks)**

3.3 Discuss the general theoretical arguments for and against a firm hedging its foreign exchange exposure. **(6 marks)**

3.4 Cromwell is thinking of expanding into new overseas markets. Identify five factors that would need to be taken into account in assessing the political risk in these markets. **(5 marks)**

Total: 30 marks

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Appendices

FORMULAE AND DISCOUNT TABLES

Formulae you may require:

a. Discounting an annuity

The annuity factor: $AF_{1\to n} = \frac{1}{r}\left[1 - \frac{1}{(1+r)^n}\right]$

Where AF = annuity factor
n = number of payments
r = discount rate as a decimal

b. Dividend growth model: $k_e = \frac{D_0(1+g)}{P_0} + g$

Where k_e = cost of equity
D_0 = current dividend per ordinary share
g = the annual dividend growth rate
P_0 = the current ex-div price per ordinary share

c. Capital asset pricing model: $r_j = r_f + \beta_j (r_m - r_f)$

Where r_j = the expected return from security j
r_f = the risk free rate
β_j = the beta of security j
r_m = the expected return on the market portfolio

d. $\beta_e = \beta_a \left(1 + \frac{D(1-T)}{E} \right)$

Where β_e = beta of equity in a geared firm
β_a = ungeared (asset) beta
D = market value of debt
E = market value of equity
T = corporation tax rate

Note. Candidates may use other versions of these formulae but should then define the symbols they use.

DISCOUNT TABLES

Interest rate p.a.	*Number of years n*	*Present value of £1 receivable at the end of n years*	*Present value of £1 receivable at the end of each of n years*
1%	1	0.990	0.990
	2	0.980	1.970
	3	0.971	2.941
	4	0.961	3.902
	5	0.951	4.853
	6	0.942	5.795
	7	0.933	6.728
	8	0.923	7.652
	9	0.914	8.566
	10	0.905	9.471
5%	1	0.952	0.952
	2	0.907	1.859
	3	0.864	2.723
	4	0.823	3.546
	5	0.784	4.329
	6	0.746	5.076
	7	0.711	5.786
	8	0.677	6.463
	9	0.645	7.108
	10	0.614	7.722
10%	1	0.909	0.909
	2	0.826	1.736
	3	0.751	2.487
	4	0.683	3.170
	5	0.621	3.791
	6	0.564	4.355
	7	0.513	4.868
	8	0.467	5.335
	9	0.424	5.759
	10	0.386	6.145
15%	1	0.870	0.870
	2	0.756	1.626
	3	0.658	2.283
	4	0.572	2.855
	5	0.497	3.352
	6	0.432	3.784
	7	0.376	4.160
	8	0.327	4.487
	9	0.284	4.772
	10	0.247	5.019
20%	1	0.833	0.833
	2	0.694	1.528

Interest rate p.a.	*Number of years n*	*Present value of £1 receivable at the end of n years*	*Present value of £1 receivable at the end of each of n years*
	3	0.579	2.106
	4	0.482	2.589
	5	0.402	2.991
	6	0.335	3.326
	7	0.279	3.605
	8	0.233	3.837
	9	0.194	4.031
	10	0.162	4.192

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