PROFESSIONAL LEVEL EXAMINATION

DECEMBER 2016

Mock Exam 2

(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 classified as misconduct.

A Formulae 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 Britton Industrials Limited (Britton) sells a range of domestic and industrial tools in the UK. It has a financial year end of 31 December. The industrial tools are bought-in but the domestic tools are manufactured at Britton's headquarters. In the past 18 months the company has expanded its product range and now also sells wood burning boilers, all of which are imported from South Korea. Of late, the UK has witnessed an increasing demand for 'green' energy and these boilers have proved to be very popular. Britton's directors feel that because the company has entered this particular boiler market early on in its life cycle, it will enjoy a three-year period of competitive advantage and, accordingly, they are now considering whether to expand this area of the business. You are a finance manager at Britton and an ICAEW Chartered Accountant. You have been tasked with appraising a proposed expansion.

The machinery used for domestic tool manufacture had a tax written down value of £840,000 brought forward at 1 January 2016 and Britton's directors estimate that it has a current scrap value of £250,000. Were domestic tool manufacturing to continue, then the machinery would have a scrap value of £50,000 in three years' time, ie, at 31 December 2019.

In order to cater for the expansion of its boiler market, Britton would have to spend £4.2 million on new computerised warehouse equipment. This expenditure would occur on 31 December 2016. Britton's Head of Production who is an expert in this type of equipment, estimates that the equipment will have minimal scrap value at 31 December 2019 due to technical obsolescence. However, the Finance Director has asked you to ignore this advice and use his 'best guess' of £500,000 for the scrap value in your appraisal, 'to make the investment more attractive'.

Table 1: Extracts from budgeted financial statements for year to 31 December 2016

	Industrial bought-in tools	**Domestic manufactured tools**	**Boilers**
Sales	£34.8m	£8.7m	£16.5m
Contribution/sales %	21%	18%	28%
Fixed costs – avoidable	£1.8m	£0.7m	£1.2m
Fixed costs – allocated	£1.4m	£0.4m	£0.8m
Total working capital investment	£3.7m	£0.9m	£2.2m

Britton's directors estimate that the figures for domestic manufactured tools and boilers in Table 1 would remain constant for the next three years, ie, to 31 December 2019, if the boiler market were not expanded and domestic manufactured tools production continued. For the same period they expect sales of industrial bought-in tools (and its working capital investment) to expand by 3% pa whether or not the boiler market is expanded.

Available space at Britton's headquarters is limited and if the boiler market is to expand, then domestic tool manufacturing will have to cease.

Table 2: Estimates for the boiler market if domestic tool manufacture ceases (years ended 31 December)

	2017	2018	2019
Boiler sales	£28.4m	£27.1m	£25.4m
Boiler contribution/sales %	30%	30%	30%
Fixed costs – avoidable	£2.1m	£2.1m	£2.1m
Fixed costs – allocated	£1.3m	£1.3m	£1.3m
Total working capital investment	£4.7m	£3.9m	£3.2m

Capital allowances

Britton's machinery and equipment attracts capital allowances, but is excluded from the general pool. The equipment attracts 18% (reducing balance) capital allowances in the year of expenditure and in every subsequent year of ownership by the company, except the final year. In the final year, the difference between the machinery's written down value for tax purposes and its disposal proceeds will be either (i) treated by the company as an additional tax relief, if the disposal proceeds are less than the tax written down value, or (ii) be treated as a balancing charge to the company, if the disposal proceeds are more than the tax written down value.

Working capital

You should assume that all the necessary investment in working capital will take place at the start of the relevant financial year and will be fully recoverable at the end of the period of competitive advantage.

Other relevant information

(1) The corporation tax rate will be 21% and will be payable in the same year as the cash flows to which it relates.

(2) Unless otherwise stated all cash flows occur at the end of the relevant trading year.

(3) Britton uses a post-tax cost of capital of 7% for appraising its investments.

(4) You should ignore inflation.

Requirements

1.1. Using the Head of Production's estimated scrap value of zero for the new equipment, advise whether it is beneficial, in net present value terms, to proceed with its proposed expansion of the boiler market at 31 December 2016. **(20 marks)**

1.2. Discuss the ethical considerations in relation to the Finance Director's request to use the estimated scrap value of £500,000 in your calculations. **(4 marks)**

1.3. Explain, with reference to the particular circumstances of Britton, the principles of shareholder value analysis. **(5 marks)**

1.4. Explain and identify the real options that may be associated with the decision to expand the boiler market. **(6 marks)**

Total: 35 marks

2 A friend of yours has asked you for clarification of five issues relating to newspaper articles that he has read recently:

Issue (1) He owns 7,000 shares in Bettalot plc (Bettalot), a betting and gaming company. He has read the following and is not sure what the implications are:

'Yesterday Bettalot announced a one for two rights issue at 95 pence per share to raise £285 million in order to reduce its level of financial gearing. The rights issue price represents a 24% discount on the current market value of Bettalot's ordinary shares. The company's current p/e ratio is 9.6 and all of the money raised will be used to redeem debenture stock with a coupon rate of 8%.'

Issue (2) He has read that some UK investors have recently been buying large amounts of debenture stock in companies that are showing signs of financial distress, as this gives those investors the opportunity to take control of the companies away from the equity shareholders.

Issue (3) This article claimed that Cambrian Construction plc (Cambrian) is trying to arrange a debt for equity swap to appease its debenture holders who are demanding overdue interest payments to be made on debt whose redemption date is imminent. The share price is likely to fall if such a swap can be agreed.

Issue (4) He owns £4,000 (nominal value) of 6% debenture stock in Howells Gordon plc (HG), a UK conglomerate, which is redeemable at par in three years' time. He has read that this debenture stock has a current after-tax cost of 5%.

Issue (5) He has always believed that stock markets were semi-strong form efficient. He has read that behavioural finance suggests that this may not be the case.

The corporation tax rate is 21%.

Requirements

2.1. With regard to issue (1), calculate the impact of the rights issue on:

(a) Bettalot's earnings per share
(b) The value of your friend's shareholding and associated earnings

(9 marks)

2.2. With regard to issue (1), explain briefly:

(a) Why Bettalot may wish to reduce its level of financial gearing

(b) Without undertaking further calculations, the impact a reduction in financial gearing might have on its cost of equity and the value of its shares

(5 marks)

2.3. With regard to issue (2), explain how equity holders could lose control of their company. **(3 marks)**

2.4. With regard to issue (2), explain and identify the types of covenant lenders may put into loan agreements to limit the chances of financial distress. **(6 marks)**

2.5. With regard to issue (3), explain how a debt for equity swap works, why debt holders might be persuaded to accept such a scheme and why the Cambrian share price is likely to fall. **(4 marks)**

2.6. With regard to issue (4), calculate the current cum interest market price of the HG debenture stock and discuss what factors will have set the stock's current after-tax cost at 5%. **(4 marks)**

2.7. With regard to issue (5), briefly explain why behavioural finance may mean that the efficient markets hypothesis may not apply in reality. **(4 marks)**

Total: 35 marks

3.1. Hammond Beamish Software Limited (Hammond) is a computer games software design company and has been trading for four years. It sells the majority of its games to UK retailers. In the past year the company's products have proved very popular and it has started exporting them to Europe. It has recently signed an agreement with a French customer, Magiprix SA (Magiprix). The first sale under this agreement involves Magiprix purchasing €3.5m of games from Hammond and paying for them in three months' time.

Hammond's Sales Director, Chloe Rigby, is keen to develop this relationship with Magiprix further, but her colleagues on the board are unsure of the consequences of trading in a foreign currency. Hammond is operating in a very competitive market and its net margins are low. As a result the board wants to assess the sensitivity of the Magiprix contract to movements in the euro exchange rate.

You are a member of Hammond's finance team and have been asked to explain the foreign exchange implications of trading with Magiprix. As a result, you have collected the following information:

Spot rate (€/£) 1.1026 – 1.1084

Three month forward rate (€/£)	0.005 – 0.004 premium
Euro interest rate (lending)	2.5% pa
Euro interest rate (borrowing)	3.4% pa
Sterling interest rate (lending)	3.9% pa
Sterling interest rate (borrowing)	4.7% pa

Options are available at an exercise price of €/£1.102, with a standard contract size of £62,500. Premiums in cents per £ are as follows:

Calls	2.05
Puts	3.40

The company treasurer has predicted the forward spot rate in three months' time will be €/£1.1035.

Requirements

(a) Calculate the impact of a 1% change in the spot value of sterling (both strengthening and weakening) over the next three months on Hammond's sterling receipt from Magiprix. **(3 marks)**

(b) Calculate the amount receivable in sterling by Hammond in three months' time if it uses:

- A forward contract
- A money market hedge
- An option (assume the Treasurer's prediction is accurate) **(8 marks)**

(c) Referring to your calculations in parts (a) and (b) above, discuss the issues that should be taken account of by Hammond's board when considering whether it should hedge the Magiprix receipt. **(8 marks)**

3.2. One year ago, Stourton Wheeler Industrials Limited (SWI) borrowed £24 million for five years at a fixed rate of 9.2% pa. LIBOR is currently 8.4% pa and SWI's board believes that this rate will continue to fall. As a result it is keen to investigate the possibility of arranging an interest rate swap. Consultations with various banks suggest that SWI could borrow money at LIBOR plus 1.0% pa. SWI's directors are aware that Humphries Davis plc (HD) currently has a similar sized loan, due for repayment in four years and borrowed at LIBOR plus 1.4% pa. HD directors are concerned about the risks involved with this variable rate and would like to fix the interest rate on their loan. The best fixed rate that HD can get is 10.8% pa.

Requirements

(a) Advise SWI's board how an interest rate swap could be set up which would benefit both SWI and HD equally, with the variable leg of the swap set at LIBOR. You should prepare supporting workings that show the total annual interest paid by both companies within your proposed swap arrangements. **(8 marks)**

(b) Identify three risks associated with interest rate swap agreements. **(3 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 pa	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

Interest rate pa	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
20%	1	0.833	0.833
	2	0.694	1.528
	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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