PROFESSIONAL LEVEL EXAMINATION

MARCH 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 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 Airserv Ltd (Airserv) provides baggage handling services to European airports. Typically the company supplies staff who provide and manage baggage handling services using an airport's existing facilities, but the company can also supply its own baggage handling systems as well as staff when airports require additional short-term capacity. Airserv's accounting year end is 31 December.

Airserv has recently received details of a potential new contract which is available at short notice with a regional airport in the UK. The airport is looking for a company to supply both baggage handling systems and staff for a period of two years from 1 January 2017 to 31 December 2018 to meet increased demand whilst a new terminal is being constructed at the airport.

The airport is offering to pay a maximum fee of £3 million for the two-year contract, although tenders can be submitted below this figure. The contract fee will be payable in three equal annual instalments on 31 December 2017, 31 December 2018 and 31 December 2019.

The directors of Airserv have estimated that 105,120 hours of manual labour will be worked during the two-year contract period. This labour will be specifically hired for the period of the contract only and will be paid a fixed rate of £7.50 per hour (at 31 December 2016 prices). These manual labour hours will be split evenly between the two years of the contract. In addition, the contract would require Airserv to hire four new supervisors, who similarly would be hired for the duration of the contract only and the total cost of employing these new supervisors would be £160,000 (at 31 December 2016 prices) in each year of the contract.

Airserv is due to complete an existing contract in December 2016 and will be able to transfer baggage handling equipment previously used on that contract to the new contract. This equipment was originally purchased three years ago (ie in 2013) for £3 million and if it was not transferred to the new contract, it could be sold on 31 December 2016 for £0.75 million (in money terms).

The costs of installing this equipment in the new airport would be £40,000 payable on 31 December 2016. This cost would be treated as part of the capital cost of the equipment for tax purposes. As at 31 December 2018 it is estimated that this equipment would have negligible residual value as it will by then have reached the end of its useful life.

Full capital allowances at a rate of 18% pa on a reducing balance basis have to date been used as soon as they were available on this equipment and the directors will continue to use such allowances in future if the equipment is retained and used on the new contract. A balancing charge or allowance will arise on disposal of the equipment (either on 31 December 2016 or 31 December 2018). It can be assumed that throughout its ownership of this equipment, Airserv pays corporation tax at a rate of 21% pa and that all tax is paid at the end of the accounting year to which it relates.

To undertake this new contract, Airserv also expects to incur other incremental operating costs of £150,000 (at 31 December 2016 prices) in each of the two years of the contract.

Airserv's directors have estimated the 'real' after-tax cost of capital for the new contract to be 10% pa.

In considering the potential new contract the directors have estimated that in the years ending
31 December 2017, 2018 and 2019 inflation will be 3%, 4% and 5% pa respectively. These rates of inflation will apply to the labour (manual and supervisory) and other operating costs only.

It can be assumed that all cash flows arise at the end of the year to which they relate.

Requirements

1.1 Working in money terms and assuming that the company submits a tender of £3 million which is accepted by the airport, calculate the net present value of the new airport contract at 31 December 2016. **(14 marks)**

1.2 Calculate and comment on the sensitivity of the net present value of the new airport contract to:

(a) Total incremental labour costs (manual and supervisory); and
(b) The amount of the contract fee. **(9 marks)**

1.3 Identify the principal strengths and weaknesses of the sensitivity analysis undertaken in (b) above and suggest two ways in which its weaknesses might be addressed. **(6 marks)**

1.4 Identify and discuss the real options that may be associated with the contract. **(6 marks)**

Total: 35 marks

2 The directors of Winton Electrical plc (Winton), a listed electrical contracting company, are currently considering the possibility of a one-for-four rights issue at a 20% discount to the current share price. Issue costs for the rights issue will be 3% of the gross proceeds and the net proceeds will be invested in a new project. The Finance Director, an ICAEW Chartered Accountant, has calculated that the project has an estimated net present value of £1 million. At the present time, details of this project have not yet been made known to the market, the book value of the company's ordinary share capital (50p ordinary shares) is £4 million and the market capitalisation of the company is £40 million.

Requirements

2.1 Calculate:

(a) The theoretical ex-rights price per share; and
(b) The value of the right to subscribe per existing share. **(4 marks)**

2.2 Prepare calculations to demonstrate the impact of each of the following scenarios on the wealth of an investor who owns 1,000 shares in Winton:

(a) The investor takes no action with regard to the rights issue.

(b) The investor sells his rights under the rights issue.

(c) The investor takes up 70% of his entitlement under the rights issue and sells the other 30% of his entitlement. **(6 marks)**

2.3 Describe the reasons why, in practice, an ex-rights share price might differ from the theoretical ex-rights price. **(5 marks)**

2.4 As an alternative to the rights issue, the directors are considering reducing the current year's dividend to release the funds required to invest in the new project. Discuss the issues that the directors should consider before deciding to take this alternative course of action. **(10 marks)**

2.5 Discuss when the project's NPV would be reflected in the share price under the three forms of the efficient market hypothesis and outline the implications that behavioural issues have for market efficiency. **(6 marks)**

2.6 With reference to the ICAEW fundamental principles, discuss the key ethical issues that should be considered in light of the fact that details of this project have not yet been made known to the market. **(4 marks)**

Total: 35 marks

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3 **Note.** In all parts of the question, calculations should be undertaken to the nearest £.

3.1 Rawthorpe plc (Rawthorpe) is a UK listed company that imports and exports goods on a regular basis. On 1 November 2015 Rawthorpe signed three contracts. Payment of the sums due under each of these three contracts is to be made on 30 April 2016. Brief details of the three contracts are as follows:

- A sale of goods to Birkby Inc, a US customer, for $411,000.
- A sale of goods to Honley Inc, another US customer, for £1,100,000.
- A purchase of goods from Paddock Inc, a US supplier, for $1,750,000.

On 1 November the $/£ spot rate was quoted at $1.3800 – 1.3830/£ and the six-month forward rate at that time was being quoted at a premium of 3.50 – 3.45 cents. At the same time, the treasurer of Rawthorpe also obtained the following information regarding sterling futures contracts:

Sterling futures (contract size £62,500)

Settlement date	*Contract price* $/£
December	1.3670
March	1.3480
June	1.3270
September	1.3190

Requirements

(a) Calculate the sterling amount receivable or payable on these three contracts if on 1 November the company had chosen to hedge its net dollar transaction exposure using a forward market hedge. **(3 marks)**

(b) Explain how a futures hedge could have been established and executed on 1 November, making clear the precise contract that would have been used, whether that contract would have been bought or sold and calculating the number of contracts that would have been used for the futures hedge. **(3 marks)**

(c) Calculate the outcome of the futures hedge if, on 30 April 2016, the spot rate is $1.4100 – 1.4130/£ and the price of the relevant futures contract is $1.4000. **(4 marks)**

(d) Explain two causes of the hedge inefficiency which may arise with a futures hedge. **(4 marks)**

3.2 It is now 9 March 2016 and Rawthorpe intends to purchase goods from a Swiss supplier for which payment of SF2.5 million will be required in three months' time. The treasurer has today obtained the following quotations from the company's bank:

Spot rate	SF1.5900 – 5935/£
Three-month forward rate	SF1.5850 – 5885/£

Further discussions with the bank have revealed that Rawthorpe could arrange an over-the-counter option on Swiss francs. At an exercise price of

SF1.5840 a call option on Swiss francs would cost 15p per SF100, whilst a put option on Swiss Francs would cost 13p per SF100.

Requirements

(a) Calculate how much Rawthorpe would have to pay in sterling if a forward contract was used to hedge the transaction risk. **(1 mark)**

(b) Calculate the maximum amount Rawthorpe would have to pay in sterling if an appropriate over-the-counter option at an exercise price of SF1.5840 was used to hedge the transaction risk and state the effective exchange rate that this sterling cost would represent. **(4 marks)**

(c) Calculate the total sterling amount that Rawthorpe would have to pay if, in three months' time, the spot rate is SF1.5940 – 5975 and an over-the-counter option at an exercise price of SF1.5840 had been used to hedge the transaction risk. **(2 marks)**

3.3 Rawthorpe is also due to make a payment of €200,000 in six months' time to a German supplier. Today the spot rate is €1.0700 – 1.0750/£ and the six-month forward rate is at a 2 –1.90 cents premium. Annual interest rates in the UK and the eurozone are currently:

	Borrowing rate	*Deposit rate*
UK	2.5%	1.5%
Eurozone	3.5%	2.5%

The treasurer is considering the use of a money market hedge to fix the sterling cost of the payment, but as an alternative is considering either leading or lagging the €200,000 payment to reduce the overall sterling cost of the transaction. The company would not need to borrow to undertake any of these alternatives.

Requirements

(a) Demonstrate how a money market hedge could be used to fix the sterling cost of the payment and calculate the sterling cost using this method. **(4 marks)**

(b) Calculate the effective forward exchange rate this sterling cost would represent. **(1 mark)**

(c) In light of the information available, advise the treasurer whether leading or lagging the €200,000 payment would be an appropriate strategy for the company in this scenario. Prepare relevant calculations to support your recommendation. **(4 marks)**

Total: 30 marks

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
	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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