PROFESSIONAL LEVEL EXAMINATION

WEDNESDAY 12 SEPTEMBER 2018

(2½ HOURS)

FINANCIAL MANAGEMENT

This exam consists of **three** questions (100 marks).

Marks breakdown

Question 1	35 marks
Question 2	35 marks
Question 3	30 marks

1. Please read the instructions on this page carefully before you begin your exam. If you have any questions, raise your hand and speak with the invigilator before you begin.

2. The invigilator cannot advise you on how to use the software, but please alert them immediately if you encounter any issues during the delivery of the exam. If you believe that your performance has been affected by any issues which occurred, you must request and complete a candidate incident report form at the end of the exam. This form must be submitted as part of any subsequent special consideration application.

3. Click on the **Start Exam** button to begin the exam. The exam timer will begin to count down. A warning is given five minutes before the exam ends. When the exam timer reaches zero, the exam will end. To end the exam early, press the **Finish** button.

4. You may use a pen and paper for draft workings. Any information you write on paper will not be read or marked.

5. The examiner will take account of the way in which answers are structured. Respond directly to the exam question requirements. Do not include any content or opinion of a personal nature. A student survey is provided post-exam for feedback purposes.

6. Ensure that all of your responses are visible on screen and are not hidden within cells. Your answers will be presented to the examiner exactly as they appear on screen.

A Formulae Sheet and Discount Tables are provided with this exam.

Question 1

Assume that the current date is 31 August 2018

The Thomas Rumsey Group plc (Rumsey) is a UK company which was founded in 2001 and has a financial year end of 31 August. Rumsey manufactures computer hardware and also supplies information technology (IT) support services. Since its formation the group has expanded via organic growth and the acquisition of other companies.

Snowdog Printers Ltd (Snowdog) is a UK company that manufactures computer printers. Rumsey has owned 100% of Snowdog's ordinary shares since 2009.

Snowdog's sales and profits have fallen in each of the last two years. Rumsey's board met in July 2018 and decided to wind down Snowdog's operations and that Snowdog will cease trading in three years' time, on 31 August 2021.

Following the July 2018 meeting, Snowdog's directors informed the Rumsey board that they would like to investigate a management buy-out (MBO) of 100% of Snowdog's share capital. You are an ICAEW Chartered Accountant and you work in Rumsey's finance team. You have been asked to provide guidance on the MBO for Rumsey's board.

The Snowdog MBO was discussed at the Rumsey board meeting on 15 August 2018. Three key issues discussed at that meeting are summarised below:

- It was agreed that the buy-out price for Snowdog would be its economic value to Rumsey, assuming that it remained in the group until 31 August 2021. The economic value would be the expected net present value of Snowdog's projected cash flows over the next three years, discounted at Rumsey's WACC. The forecast data for this calculation is shown below.
- One of Rumsey's directors asked "Couldn't we add a premium to the MBO price? The cash flows are only estimates after all. I'm sure that we could inflate the cash inflows or alter the WACC figure in our favour. Snowdog's directors would be unaware of this and they seem very keen to buy the company."
- Another director asked whether Shareholder Value Analysis (SVA) could be used as an alternative to the expected NPV to calculate the value of Snowdog.

Forecast data

(1) Sales in the year to 31 August 2020 will be dependent on the level of sales in the year to 31 August 2019 as shown in the table below:

<table>
<tr><th colspan="2">y/e August 2019</th><th colspan="2">y/e 31 August 2020</th></tr>
<tr><th>Sales (£m)</th><th>Probability</th><th>Sales (£m)</th><th>Probability</th></tr>
<tr><td rowspan="2">7.0</td><td rowspan="2">0.7</td><td>5.0</td><td>0.6</td></tr>
<tr><td>4.0</td><td>0.4</td></tr>
<tr><td rowspan="2">4.5</td><td rowspan="2">0.3</td><td>4.0</td><td>0.4</td></tr>
<tr><td>3.0</td><td>0.6</td></tr>
</table>

Sales in the year to 31 August 2021 will be £2.5 million. The expected value of annual sales is to be used in the NPV calculation.

(2) Variable costs will be 30% of sales.

(3) Fixed costs (including depreciation of £600,000 pa) will be £1.7 million pa.

(4) Closure costs on 31 August 2021 will be £600,000.

(5) All of the figures in (1) – (4) above are in 31 August 2018 prices. The inflation rate for sales and costs is 2% pa.

(6) The tax written down value at 31 August 2018 of Snowdog's plant and machinery is £3.3 million. It is estimated that this will have a scrap value of £1.5 million (in 31 August 2021 prices) on 31 August 2021. The plant and machinery 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 equipment's written down value for tax purposes and its disposal proceeds will be treated by the company either as:

    a balancing allowance, if the disposal proceeds are less than the tax written down value, or

    a balancing charge, if the disposal proceeds are more than the tax written down value.

(7) Snowdog's working capital on 31 August 2018 totalled £1.8 million. It is planned to reduce this by £0.2 million on 31 August 2019 and £0.3 million on 31 August 2020. The outstanding balance will be released on 31 August 2021. All working capital figures are given in money terms.

Other information

Corporation tax will be payable at the rate of 17% for the foreseeable future and tax will be payable in the same year as the cash flows to which it relates.

Rumsey's money WACC is 11% pa.

Requirements

1.1 Calculate the expected NPV of Snowdog's money cash flows at 31 August 2018. **(18 marks)**

1.2 Calculate the effect on this expected NPV if the scrap value of Snowdog's plant and machinery on 31 August 2021 is £1 million. **(4 marks)**

1.3 Comment on the ethical implications for you as an ICAEW Chartered Accountant of the Rumsey director's suggestion regarding the MBO premium. **(3 marks)**

1.4 Explain what is meant by the term 'real options' and identify for Rumsey's board two real options that could apply to Snowdog as alternatives to the MBO. **(5 marks)**

1.5 Outline the Shareholder Value Analysis (SVA) approach to company valuation, identifying its advantages and disadvantages. **(5 marks)**

Total: 35 marks

Question 2

Assume that the current date is 1 September 2018

Heath Care plc (Heath) is a listed UK company that sells baby products. The company was founded in 1995 and it has a financial year end of 31 August.

All of Heath's customers are based in the UK. They order goods online and these are then delivered by a national courier company from Heath's central warehouse. Despite not having any physical shops, Heath was initially very successful. However, in the past two years the market for baby products has become much more competitive and the company's market share has fallen as a result. This has led to a 15% decline in the price of its ordinary shares.

You work in Heath's finance team and have been asked to provide guidance for the company's board following its most recent meeting. At that meeting the following suggestions were made by two of Heath's directors:

> Janine Barrowland – "We could establish a number of Heath shops across the UK. This would give more visibility to our brand. I estimate it would cost us £10 million for ten shops. I can see from the management accounts that we've not got sufficient cash to make that sort of investment, but I see no reason why we shouldn't borrow the £10 million. Interest rates are still very low and we could probably borrow it from our bank at a maximum cost of 4% pa. Our WACC wouldn't alter by much, which would make any investment decision very straightforward."
>
> Chris Sinnott – "Why not invest in a completely different type of business? We know that people in the UK are living longer and I know of an established care home business that is for sale and it may well be a good investment for us.
> There's a steady net cash inflow and we'd own a number of valuable properties. Yes, it's risky, but diversification like this would be good for our investors as we'd be making positive use of the portfolio effect."

An extract from Heath's balance sheet at 31 August 2018 is shown below:

	£'000
Ordinary share capital (£1 shares)	6,300
Retained earnings (note 1)	2,520
9% Preference share capital (£1 shares)	750
4% Redeemable debentures (note 2)	680
5% Irredeemable debentures	1,240
	11,490

Note 1
Earnings for the year to 31 August 2018 were £1,050,000 and an ordinary dividend of £630,000 for the year to 31 August 2018 has been proposed.

Note 2
These debentures are redeemable at par on 1 September 2021.

The market prices of Heath's long-term finance on 1 September 2018 are:

Ordinary shares	£3.45/share (cum div)	
Preference shares	£1.62/share	(cum div)
Redeemable debentures	£103% (cum interest)	
Irredeemable debentures	£94% (ex interest)	

<u>Additional information</u>

Heath's equity beta	1.4
Expected risk free rate	3.35% pa
Expected return on the market	8.25% pa

You should assume that corporation tax will be payable at the rate of 17% for the foreseeable future and tax will be payable in the same year as the cash flows to which it relates.

Note: In the earnings retention model g = rb.

Requirements

2.1 Calculate Heath's WACC on 1 September 2018 using:

(a) Gordon's growth model (earnings retention model)
(17 marks)

(b) CAPM **(3 marks)**

2.2 Compare and contrast Gordon's growth model with the CAPM as alternative means of calculating the cost of equity. **(5 marks)**

2.3 Advise Heath's directors whether they should use the existing WACC figure calculated in part 2.1 above when appraising the investment suggested by Janine Barrowland. Your advice should include specific reference to the use of the APV technique and the circumstances under which it is applicable. **(6 marks)**

2.4 From the point of view of a shareholder, explain the portfolio effect and discuss the validity of Chris Sinnott's proposal that Heath should purchase a care home business.
(4 marks)

Total: 35 marks

Question 3

Assume that the current date is 1 September 2018

Eddyson Cordless Ltd (Eddyson) is a UK-based company that designs and manufactures battery-powered home and garden appliances. It was formed in 2010 and an analysis of its sales and purchases, by value, over the past 12 months shows the following:

	UK	**Eurozone**
Sales	96%	4%
Purchases of raw materials	74%	26%

Recently, a very large US electrical wholesale company, Timba Inc (Timba), placed an order with Eddyson worth $2.3million. The goods will be exported to the US next week and Timba will pay for them on 30 November 2018.

Eddyson's board is considering whether it is worth hedging the foreign exchange rate risk associated with the sale to Timba. Four possible strategies have been proposed:

- Do not hedge
- Use a forward contract
- Use a money market hedge
- Use sterling traded currency options

You work in Eddyson's finance team and have been asked to provide calculations and guidance for the board. You have collected the following information at the close of business on
1 September 2018:

Spot exchange rate ($/£)	1.3655 – 1.3775
Three-month forward contract premium ($/£)	0.0060 – 0.0044
Arrangement fee for forward contract	£0.30 per $100 converted
Sterling interest rate (borrowing)	5.6% pa
Sterling interest rate (lending)	4.6% pa
US dollar interest rate (borrowing)	4.0% pa
US dollar interest rate (lending)	3.2% pa

Sterling traded currency options (standard contract size £31,250) are priced as follows on 1 September 2018 (premiums are quoted in cents per £):

	September 2018 contracts		**November 2018 contracts**	
Exercise price ($/£)	Calls	Puts	Calls	Puts
1.351.08	2.36	1.99	3.70	

Requirements

3.1 Calculate Eddyson's net sterling receipt for each of the four proposed strategies under consideration, assuming that on 30 November 2018 the spot exchange rate will be:

(a) $/£ 1.3240 – 1.3350
(b) $/£ 1.3935 – 1.4050

Note: Interest on option premiums should be ignored. **(16 marks)**

3.2 With reference to your calculations in 3.1 above, advise Eddyson's board whether it should hedge against movements in the value of the US dollar. **(6 marks)**

3.3 Explain, with relevant workings, why the three-month forward rate is expressed at a premium to the spot rate on 1 September 2018. **(5 marks)**

3.4 Briefly discuss whether any future sales to Timba might expose Eddyson to economic risk. **(3 marks)**

Total: 30 marks