Fundamentals Level – Skills Module

Financial Management

Friday 5 June 2015

Time allowed

Reading and planning: 15 minutes
Writing: 3 hours

This paper is divided into two sections:

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

Section B – ALL FIVE questions are compulsory and MUST be attempted

Formulae Sheet, Present Value and Annuity Tables are on pages 10, 11 and 12.

Do NOT open this paper until instructed by the supervisor.

During reading and planning time only the question paper may be annotated. You must NOT write in your answer booklet until instructed by the supervisor.

Do NOT record any of your answers on the exam paper.

This question paper must not be removed from the examination hall.

The Association of Chartered Certified Accountants

Paper F9

ACCA

Section B – ALL FIVE questions are compulsory and MUST be attempted.

Please write your answers to all parts of these questions on the lined pages within the Candidate Answer Booklet.

1 Rose Co expects to receive €750,000 from a credit customer in the European Union in six months' time. The spot exchange rate is €2·349 per $1 and the six-month forward rate is €2·412 per $1. The following commercial interest rates are available to Rose Co:

	Deposit rate	Borrow rate
Euros	4·0% per year	8·0% per year
Dollars	2·0% per year	3·5% per year

Rose Co does not have any surplus cash to use in hedging the future euro receipt.

Required:

(a) Evaluate whether a money market hedge or a forward market hedge would be preferred on financial grounds by Rose Co. (5 marks)

(b) Briefly explain the nature of a forward rate agreement and discuss how a company can use a forward rate agreement to manage interest rate risk. (5 marks)

(10 marks)

2 Chad Co is a stock-market-listed company which has managed to increase earnings over the last year. As a result, the board of directors has increased the dividend payout ratio from 40·0% for the year to March 2014 to 41·4% for the year to March 2015. Chad Co has a cost of equity of 12·5%. The following information is also available:

Year to March	2014	2015
	$000	$000
Earnings	13,200	13,840
Ordinary shares	8,000	8,000

The nominal value of the ordinary shares of Chad Co is $0·50 per share. Listed companies similar to Chad Co have an earnings yield of 8·2%.

Required:

(a) Calculate the equity market value of Chad Co using the dividend growth model. (3 marks)

(b) Calculate the equity market value of Chad Co using the earnings yield method. (2 marks)

(c) Discuss the relative merits of the dividend growth model and the earnings yield method as a way of valuing Chad Co. (5 marks)

(10 marks)

3 The finance director of Widnor Co has been looking to improve the company's working capital management. Widnor Co has revenue from credit sales of $26,750,000 per year and although its terms of trade require all credit customers to settle outstanding invoices within 40 days, on average customers have been taking longer. Approximately 1% of credit sales turn into bad debts which are not recovered.

Trade receivables currently stand at $4,458,000 and Widnor Co has a cost of short-term finance of 5% per year.

The finance director is considering a proposal from a factoring company, Nokfe Co, which was invited to tender to manage the sales ledger of Widnor Co on a with-recourse basis. Nokfe Co believes that it can use its expertise to reduce average trade receivables days to 35 days, while cutting bad debts by 70% and reducing administration costs by $50,000 per year. A condition of the factoring agreement is that the company would also advance Widnor Co 80% of the value of invoices raised at an interest rate of 7% per year. Nokfe Co would charge an annual fee of 0·75% of credit sales.

Assume that there are 360 days in each year.

Required:

(a) Advise whether the factor's offer is financially acceptable to Widnor Co. (7 marks)

(b) Briefly discuss how the creditworthiness of potential customers can be assessed. (3 marks)

(10 marks)

4 Grenarp Co is planning to raise $11,200,000 through a rights issue. The new shares will be offered at a 20% discount to the current share price of Grenarp Co, which is $3·50 per share. The rights issue will be on a 1 for 5 basis and issue costs of $280,000 will be paid out of the cash raised. The capital structure of Grenarp Co is as follows:

	$m	$m
Equity		
Ordinary shares ($0·50 nominal)	10	
Reserves	75	
		85
Non-current liabilities		
8% Loan notes		30
		115

The net cash raised by the rights issue will be used to redeem part of the loan note issue. Each loan note has a nominal value of $100 and an ex interest market value of $104. A clause in the bond issue contract allows Grenarp Co to redeem the loan notes at a 5% premium to market price at any time prior to their redemption date. The price/earnings ratio of Grenarp Co is not expected to be affected by the redemption of the loan notes.

The earnings per share of Grenarp Co is currently $0·42 per share and total earnings are $8,400,000 per year. The company pays corporation tax of 30% per year.

Required:

(a) Evaluate the effect on the wealth of the shareholders of Grenarp Co of using the net rights issue funds to redeem the loan notes. (8 marks)

(b) Discuss whether Grenarp Co might achieve its optimal capital structure following the rights issue. (7 marks)

(15 marks)

5 Hraxin Co is appraising an investment project which has an expected life of four years and which will not be repeated. The initial investment, payable at the start of the first year of operation, is $5 million. Scrap value of $500,000 is expected to arise at the end of four years.

There is some uncertainty about what price can be charged for the units produced by the investment project, as this is expected to depend on the future state of the economy. The following forecast of selling prices and their probabilities has been prepared:

Future economic state	Weak	Medium	Strong
Probability of future economic state	35%	50%	15%
Selling price in current price terms	$25 per unit	$30 per unit	$35 per unit

These selling prices are expected to be subject to annual inflation of 4% per year, regardless of which economic state prevails in the future.

Forecast sales and production volumes, and total nominal variable costs, have already been forecast, as follows:

Year	1	2	3	4
Sales and production (units)	150,000	250,000	400,000	300,000
Nominal variable cost ($000)	2,385	4,200	7,080	5,730

Incremental overheads of $400,000 per year in current price terms will arise as a result of undertaking the investment project. A large proportion of these overheads relate to energy costs which are expected to increase sharply in the future because of energy supply shortages, so overhead inflation of 10% per year is expected.

The initial investment will attract tax-allowable depreciation on a straight-line basis over the four-year project life. The rate of corporation tax is 30% and tax liabilities are paid in the year in which they arise. Hraxin Co has traditionally used a nominal after-tax discount rate of 11% per year for investment appraisal.

Required:

(a) Calculate the expected net present value of the investment project and comment on its financial acceptability. (9 marks)

(b) Critically discuss if sensitivity analysis will assist Hraxin Co in assessing the risk of the investment project. (6 marks)

(15 marks)

Formulae Sheet

Economic order quantity

$$= \sqrt{\frac{2C_0D}{C_h}}$$

Miller–Orr Model

$$\text{Return point} = \text{Lower limit} + \left(\frac{1}{3} \times \text{spread}\right)$$

$$\text{Spread} = 3\left[\frac{\frac{3}{4} \times \text{transaction cost} \times \text{variance of cash flows}}{\text{interest rate}}\right]^{\frac{1}{3}}$$

The Capital Asset Pricing Model

$$E\left(r_i\right) = R_f + \beta_i\left(E\left(r_m\right) - R_f\right)$$

The asset beta formula

$$\beta_a = \left[\frac{V_e}{\left(V_e + V_d\left(1-T\right)\right)}\beta_e\right] + \left[\frac{V_d\left(1-T\right)}{\left(V_e + V_d\left(1-T\right)\right)}\beta_d\right]$$

The Growth Model

$$P_o = \frac{D_0\left(1+g\right)}{\left(r_e - g\right)}$$

Gordon's growth approximation

$$g = br_e$$

The weighted average cost of capital

$$WACC = \left[\frac{V_e}{V_e + V_d}\right]k_e + \left[\frac{V_d}{V_e + V_d}\right]k_d\left(1-T\right)$$

The Fisher formula

$$\left(1+i\right) = \left(1+r\right)\left(1+h\right)$$

Purchasing power parity and interest rate parity

$$S_1 = S_0 \times \frac{\left(1+h_c\right)}{\left(1+h_b\right)} \qquad F_0 = S_0 \times \frac{\left(1+i_c\right)}{\left(1+i_b\right)}$$

Present Value Table

Present value of 1 i.e. $(1 + r)^{-n}$

Where r = discount rate
n = number of periods until payment

Discount rate (r)

Periods (n)	1%	2%	3%	4%	5%	6%	7%	8%	9%	10%	
1	0·990	0·980	0·971	0·962	0·952	0·943	0·935	0·926	0·917	0·909	1
2	0·980	0·961	0·943	0·925	0·907	0·890	0·873	0·857	0·842	0·826	2
3	0·971	0·942	0·915	0·889	0·864	0·840	0·816	0·794	0·772	0·751	3
4	0·961	0·924	0·888	0·855	0·823	0·792	0·763	0·735	0·708	0·683	4
5	0·951	0·906	0·863	0·822	0·784	0·747	0·713	0·681	0·650	0·621	5
6	0·942	0·888	0·837	0·790	0·746	0·705	0·666	0·630	0·596	0·564	6
7	0·933	0·871	0·813	0·760	0·711	0·665	0·623	0·583	0·547	0·513	7
8	0·923	0·853	0·789	0·731	0·677	0·627	0·582	0·540	0·502	0·467	8
9	0·914	0·837	0·766	0·703	0·645	0·592	0·544	0·500	0·460	0·424	9
10	0·905	0·820	0·744	0·676	0·614	0·558	0·508	0·463	0·422	0·386	10
11	0·896	0·804	0·722	0·650	0·585	0·527	0·475	0·429	0·388	0·350	11
12	0·887	0·788	0·701	0·625	0·557	0·497	0·444	0·397	0·356	0·319	12
13	0·879	0·773	0·681	0·601	0·530	0·469	0·415	0·368	0·326	0·290	13
14	0·870	0·758	0·661	0·577	0·505	0·442	0·388	0·340	0·299	0·263	14
15	0·861	0·743	0·642	0·555	0·481	0·417	0·362	0·315	0·275	0·239	15

(n)	11%	12%	13%	14%	15%	16%	17%	18%	19%	20%	
1	0·901	0·893	0·885	0·877	0·870	0·862	0·855	0·847	0·840	0·833	1
2	0·812	0·797	0·783	0·769	0·756	0·743	0·731	0·718	0·706	0·694	2
3	0·731	0·712	0·693	0·675	0·658	0·641	0·624	0·609	0·593	0·579	3
4	0·659	0·636	0·613	0·592	0·572	0·552	0·534	0·516	0·499	0·482	4
5	0·593	0·567	0·543	0·519	0·497	0·476	0·456	0·437	0·419	0·402	5
6	0·535	0·507	0·480	0·456	0·432	0·410	0·390	0·370	0·352	0·335	6
7	0·482	0·452	0·425	0·400	0·376	0·354	0·333	0·314	0·296	0·279	7
8	0·434	0·404	0·376	0·351	0·327	0·305	0·285	0·266	0·249	0·233	8
9	0·391	0·361	0·333	0·308	0·284	0·263	0·243	0·225	0·209	0·194	9
10	0·352	0·322	0·295	0·270	0·247	0·227	0·208	0·191	0·176	0·162	10
11	0·317	0·287	0·261	0·237	0·215	0·195	0·178	0·162	0·148	0·135	11
12	0·286	0·257	0·231	0·208	0·187	0·168	0·152	0·137	0·124	0·112	12
13	0·258	0·229	0·204	0·182	0·163	0·145	0·130	0·116	0·104	0·093	13
14	0·232	0·205	0·181	0·160	0·141	0·125	0·111	0·099	0·088	0·078	14
15	0·209	0·183	0·160	0·140	0·123	0·108	0·095	0·084	0·074	0·065	15

Annuity Table

Present value of an annuity of 1 i.e. $\frac{1-(1+r)^{-n}}{r}$

Where r = discount rate
n = number of periods

Discount rate (r)

Periods (n)	1%	2%	3%	4%	5%	6%	7%	8%	9%	10%	
1	0·990	0·980	0·971	0·962	0·952	0·943	0·935	0·926	0·917	0·909	1
2	1·970	1·942	1·913	1·886	1·859	1·833	1·808	1·783	1·759	1·736	2
3	2·941	2·884	2·829	2·775	2·723	2·673	2·624	2·577	2·531	2·487	3
4	3·902	3·808	3·717	3·630	3·546	3·465	3·387	3·312	3·240	3·170	4
5	4·853	4·713	4·580	4·452	4·329	4·212	4·100	3·993	3·890	3·791	5
6	5·795	5·601	5·417	5·242	5·076	4·917	4·767	4·623	4·486	4·355	6
7	6·728	6·472	6·230	6·002	5·786	5·582	5·389	5·206	5·033	4·868	7
8	7·652	7·325	7·020	6·733	6·463	6·210	5·971	5·747	5·535	5·335	8
9	8·566	8·162	7·786	7·435	7·108	6·802	6·515	6·247	5·995	5·759	9
10	9·471	8·983	8·530	8·111	7·722	7·360	7·024	6·710	6·418	6·145	10
11	10·368	9·787	9·253	8·760	8·306	7·887	7·499	7·139	6·805	6·495	11
12	11·255	10·575	9·954	9·385	8·863	8·384	7·943	7·536	7·161	6·814	12
13	12·134	11·348	10·635	9·986	9·394	8·853	8·358	7·904	7·487	7·103	13
14	13·004	12·106	11·296	10·563	9·899	9·295	8·745	8·244	7·786	7·367	14
15	13·865	12·849	11·938	11·118	10·380	9·712	9·108	8·559	8·061	7·606	15

(n)	11%	12%	13%	14%	15%	16%	17%	18%	19%	20%	
1	0·901	0·893	0·885	0·877	0·870	0·862	0·855	0·847	0·840	0·833	1
2	1·713	1·690	1·668	1·647	1·626	1·605	1·585	1·566	1·547	1·528	2
3	2·444	2·402	2·361	2·322	2·283	2·246	2·210	2·174	2·140	2·106	3
4	3·102	3·037	2·974	2·914	2·855	2·798	2·743	2·690	2·639	2·589	4
5	3·696	3·605	3·517	3·433	3·352	3·274	3·199	3·127	3·058	2·991	5
6	4·231	4·111	3·998	3·889	3·784	3·685	3·589	3·498	3·410	3·326	6
7	4·712	4·564	4·423	4·288	4·160	4·039	3·922	3·812	3·706	3·605	7
8	5·146	4·968	4·799	4·639	4·487	4·344	4·207	4·078	3·954	3·837	8
9	5·537	5·328	5·132	4·946	4·772	4·607	4·451	4·303	4·163	4·031	9
10	5·889	5·650	5·426	5·216	5·019	4·833	4·659	4·494	4·339	4·192	10
11	6·207	5·938	5·687	5·453	5·234	5·029	4·836	4·656	4·486	4·327	11
12	6·492	6·194	5·918	5·660	5·421	5·197	4·988	4·793	4·611	4·439	12
13	6·750	6·424	6·122	5·842	5·583	5·342	5·118	4·910	4·715	4·533	13
14	6·982	6·628	6·302	6·002	5·724	5·468	5·229	5·008	4·802	4·611	14
15	7·191	6·811	6·462	6·142	5·847	5·575	5·324	5·092	4·876	4·675	15

End of Question Paper