ICSA
Chartered Secretaries Canada

Chartered Secretaries Canada
202 – 300 March Road · Ottawa · ON · K2K 2E2 · Canada
T 613.595.1151 · 1.800.501.3440 · F 613.595.1155 · info@icsacanda.org · www.icsacanada.org

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Chartered Secretaries Qualifying Scheme – Level Two

Financial Decision Making

June 2011

Tuesday afternoon 7 June 2011

Time allowed: 3 hours and 15 minutes
(including reading time)

Do not open this examination paper until the presiding officer or an invigilator tells you to.

You must not take this paper out of the examination room.

The examination paper contains **six** questions. Each question is worth 25 marks. You must attempt **four questions only**.

Questions

*Answer **four** questions from this paper.*

1. Ash Ltd. ('Ash') has recently developed a portable, lightweight image scanner that can be used by business executives when travelling. The scanner cost $850,000 to develop and has recently been subject to market research and testing at a cost of $250,000. The scanner has an estimated product life cycle of four years. Annual demand and selling prices for the scanner over its life cycle are estimated as follows:

Year to 31 May	2012	2013	2014	2015
Demand (units)	28,000	40,000	35,000	20,000
Selling price	$450	$400	$320	$275

The following points relate to production of the scanner:

(i) Production of the new scanner will take place in a factory building that is owned by Ash but is currently being rented to a biomedical business for an annual rent of $120,000 per year.

(ii) To produce the scanner, new equipment costing $8,000,000 must be purchased immediately. In addition, existing equipment, which is not currently being used, must be employed in the production process. This equipment cost $4,000,000, has a written down value of $2,000,000 and has a current resale value of $1,500,000. All of the equipment used in producing the new scanner will be sold for an estimated $1,000,000 when production ceases. The company uses the straight-line method of depreciation for all its equipment.

(iii) New employees will be recruited to produce the new scanner at a cost of $2,460,000 per year. At the end of the four-year product life cycle, the employees will be released and severance payments of $900,000 are expected to be incurred.

(iv) As a result of a recently cancelled order from an overseas government, sufficient material to produce 20,000 scanners is already held by Ash. This material cost $240,000 and has a resale value of $180,000. The material cannot be used for any other purpose by Ash. The cost of new material purchased is expected to be $125 per scanner.

(v) Working capital of $5,000,000 will be required immediately and will be released when production of the new scanner ceases.

(vi) Fixed overheads of $4,425,000 per year relate specifically to the scanner. This includes a depreciation charge for equipment. In addition, there are head office overheads of $8,000,000 per year. These overheads do not relate specifically to the scanner but $380,000 will be apportioned to the scanner to represent a 'fair share' of the overhead burden.

(vii) The company is entirely financed by equity. The company's shares have a beta of 1.4. The risk-free rate of return is 3% and returns to the market are 8%.

(continued)

The current economic climate has made forecasting increasingly difficult for the company. As a result, scenario analysis is being considered as a means of achieving a better understanding of the risk and uncertainty involved in launching the new product. This form of analysis has not been used by the company in the past and its potential usefulness is not well understood. The company secretary has, therefore, been asked to provide advice to senior managers on the usefulness of scenario analysis in investment decisions.

Note: Ignore tax and inflation and assume that it is now 31 May 2011.

Required

(a) Calculate the net present value of producing the new image scanner and discuss your results.

(17 marks)

(b) Assume the role of company secretary and provide a briefing paper to senior managers which explains:

(i) Why risk should be taken into account when making investment decisions.

(ii) The strengths and weaknesses of scenario analysis in dealing with risk.

(8 marks)

(Total: 25 marks)

2. Relax Hotels Ltd. ('Relax') operates a chain of hotels throughout Canada. For some years, trading conditions have been poor and the board of directors has concluded that future growth can only be achieved through diversification into other business sectors. To this end, the board is considering the acquisition of Maple Restaurants Ltd. ('Maple'), which owns a chain of fast-food restaurants. Both companies have their shares listed on the TSX exchange.

The board of directors of Relax is currently putting together a formal bid for the board of directors of Maple to consider. Two key issues still to be resolved are the premium that should be offered to acquire the shares in Maple and the particular form of bid consideration.

Required

(a) Discuss whether diversification provides a valid reason for acquiring another company.

(6 marks)

(b) Explain why a bidding company may pay a premium above the market value of the shares to acquire another company.

(4 marks)

(c) Identify the main forms of bid consideration that may be used to acquire Maple and discuss the advantages and disadvantages of each.

(15 marks)

(Total: 25 marks)

3. The most recent financial statements of Birch (Engineering) Ltd. ('the company') are as follows:

Income Statement for the year ended 31 May 2011	
	$m
Sales revenue	55.8
Profit before interest and taxation	4.5
Interest payable	0.5
Profit before taxation	4.0
Tax (20%)	0.8
Profit for the year	3.2

Statement of Financial Position as at 31 May 2011 (IFRS selected format)	
ASSETS	**$m**
Non-current assets	
Property, plant and equipment	31.4
Current assets	
Inventories	10.4
Trade receivables	6.4
Cash	2.0
	18.8
Total assets	50.2
EQUITY AND LIABILITIES	
Equity	
Ordinary $1 shares	14.0
Retained earnings	16.3
	30.3
Non-current liabilities	
5% loan notes	10.0
Current liabilities	
Trade payables	6.2
Accrued expenses	3.7
	9.9
Total equity and liabilities	50.2

The company has recently been awarded a large government contract that is expected to boost future profits before interest and taxation by $2.5 million per year. To perform the contract, additional investment in equipment costing $20 million will be required immediately. To acquire the equipment, the directors of the company are considering two possible financing methods:

(i) The issue of $1 ordinary shares at a premium of $0.25 per share ($1.25 each).
(ii) The issue of $20 million 5% loan notes at nominal value.

The company currently pays a dividend of $0.10 per share each year and will maintain this rate of dividend whichever method of financing is selected. The company is listed on the TSX venture exchange.

(continued)

Required

(a) For each financing method:

(i) Prepare a forecast income statement for the year to 31 May 2012.

(ii) Calculate the forecast level of leverage as at 31 May 2012.

(iii) Calculate the forecast earnings per share for the year to 31 May 2012.

(10 marks)

(b) Calculate the level of profit, before interest and taxation, at which the earnings per share under each financing option will be the same.

(5 marks)

(c) Discuss the effect of each financing scheme from the perspective of existing shareholders and suggest how they may interpret the choice of financing method as a signal concerning future prospects.

(10 marks)

(Total: 25 marks)

4. Larch Ltd. ('Larch') and Hazel Ltd. ('Hazel') are both listed Canadian companies wishing to derive their cost of capital. Larch operates a chain of fast-food restaurants and Hazel operates a chain of jewellery stores. The following information concerning the two companies is available for the year to 31 May 2011:

	Larch	**Hazel**
Market value per ordinary share	$8.00	$3.80
Number of ordinary shares	15 million	20 million
Market value of debt	$40 million	$38 million
Nominal value of debt	$50 million	$40 million
Nominal interest rate	4%	6%
Profit for the year (after taxation)	$20 million	$25 million
Total dividends	$3 million	$5 million
Annual growth rate in dividends	5%	4%
Tax rate	25%	25%

Required

(a) Explain the term 'cost of capital' and discuss the possible implications for a company that fails to calculate its cost of capital accurately.

(4 marks)

(b) Calculate the weighted average cost of capital for Larch and for Hazel and suggest possible reasons why the two figures are different.

(15 marks)

(c) Briefly discuss three assumptions underpinning the use of the weighted average cost of capital when making investment decisions.

(6 marks)

(Total: 25 marks)

5. Beech Ltd ('Beech') imports and distributes a battery-operated lawn mower that is manufactured in Germany. The most recent draft Statement of Financial Position of the company is set out below.

Statement of Financial Position as at 31 May 2011 (IFRS selected format)	
ASSETS	**$000**
Non-current assets	
Property, plant and equipment	3,500
Current assets	
Inventories	1,800
Trade receivables	2,940
Cash	20
	4,760
Total assets	8,260
EQUITY AND LIABILITIES	
Equity	
Ordinary $0.50 shares	4,000
Retained earnings	1,374
	5,374
Non-current liabilities	
8% loan notes	1,000
Current liabilities	
Trade payables	1,800
Accrued expenses	86
	1,886
Total equity and liabilities	8,260

It is estimated that sales of the lawn mower for the next six months will be:

	Sales (units)
June	7,200
July	8,400
August	9,200
September	4,200
October	3,800
November	2,500

The following additional information is available:

(i) The lawn mowers cost $250 each and are sold to garden centres and do-it-yourself stores for $280 each.

(ii) All sales are made on two months' credit, although a cash discount of 2.5% is offered for payments received within one month of sale. Based on past experience, 40% of amounts owed will be paid after exactly one month in order to qualify for this discount and the remainder will not qualify for the discount. Most of the remaining customers will pay between one and two months after sale but it is estimated that 5% of these will not pay at all.

(continued)

(iii) Sales remained constant at 7,000 units per month during April and May. (The trade receivables figure in the most recent draft Statement of Financial Position does not make any allowance for future discounts or possible bad debts.)

(iv) Sufficient inventories are held at the end of each month to meet sales demand for the following month. However, from July onwards, Beech also intends to hold buffer inventories of 800 lawn mowers.

(v) The German company supplying the lawn mowers allows one months' credit. Demand for the lawn mower is extremely buoyant and late payment will lead to a cessation of future supplies.

(vi) Operating expenses are currently $95,000 per month and are paid one month after being incurred. These expenses include a depreciation charge of $9,000 per month.

(vii) Beech wishes to own its own distribution facilities and, to this end, will buy 5 transport vehicles at a total cost of $340,000 in early July. This will lead to an increase in operating expenses of $15,000 per month, which includes an additional depreciation charge of $7,000 per month.

(viii) A dividend of $180,000 will be announced in June 2011 and will be paid two months following the announcement.

(ix) A quarterly tax payment of $22,000 is due at the end of each quarter, commencing in June 2011.

(x) Loan interest is paid half-yearly in September and March.

Beech has agreed a bank overdraft facility of $400,000, if needed. However, the bank has made it clear that the overdraft limit should not be exceeded.

Required

(a) Prepare a monthly cash flow forecast for the six-month period to 30 November 2011. (Note: All workings should be shown to the nearest $000.)

(13 marks)

(b) Comment on the significant features revealed by the cash flow forecast you produced in answer to 5(a). Make any recommendations that you consider appropriate to ensure that the bank overdraft limit is not exceeded.

(4 marks)

(c) Discuss the main factors that will influence the level of cash that a business should hold and, where possible, refer to Beech.

(8 marks)

(Total: 25 marks)

6. Spruce Manufacturing Ltd ('Spruce') makes ball bearings for various types of machinery. It is a small company and has recently received an order from a large machine manufacturer. The order, which will be spread over three years, will increase annual sales revenue by 10% over the three-year period. The directors of Spruce were surprised to receive such a large order and are due to meet to discuss its implications. In particular, they have to determine how much credit should be allowed and how to ensure that the new customer pays on time.

   To help in their forthcoming deliberations, the directors have asked the company secretary to prepare a briefing paper.

   Required

   Assume the role of company secretary and produce a briefing paper that:

   (a) Discusses the factors to be taken into account when deciding on the amount of credit that a customer should be allowed.

   (10 marks)

   (b) Discusses the methods that may be used to ensure that the new customer pays the amounts owed to Spruce on time.

   (10 marks)

   (c) Explains why credit management can be a particular problem for small companies such as Spruce.

   (5 marks)

   (Total: 25 marks)

The scenarios included here are entirely fictional. Any resemblance of the information in the scenarios to real persons or organisations, actual or perceived, is purely coincidental.

Annuity Table

Present value (in $) of a series of n equal annual payments of $1 a year, starting one year from now, discounted at a rate of r% per annum

Discount rate (r)

Years (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
2	1.970	1.942	1.913	1.886	1.859	1.833	1.808	1.783	1.739	1.736
3	2.941	2.884	2.829	2.775	2.723	2.673	2.624	2.577	2.531	2.487
4	3.902	3.808	3.717	3.630	3.546	3.465	3.387	3.312	3.240	3.170
5	4.853	4.713	4.580	4.452	4.329	4.212	4.100	3.993	3.890	3.791
6	5.795	5.601	5.417	5.242	5.076	4.917	4.767	4.623	4.486	4.355
7	6.728	6.472	6.230	6.002	5.786	5.582	5.389	5.206	5.033	4.868
8	7.652	7.325	7.020	6.733	6.463	6.210	5.971	5.747	5.535	5.335
9	8.566	8.162	7.786	7.435	7.108	6.802	6.515	6.247	5.995	5.759
10	9.471	8.983	8.530	8.111	7.722	7.360	7.024	6.710	6.418	6.145
11	10.37	9.787	9.253	8.760	8.306	7.887	7.499	7.139	6.805	6.495
12	11.26	10.58	9.954	9.385	8.863	8.384	7.943	7.536	7.161	6.814
13	12.13	11.35	10.63	9.986	9.394	8.853	8.358	7.904	7.487	7.103
14	13.00	12.11	11.30	10.56	9.899	9.295	8.745	8.244	7.786	7.367
15	13.87	12.85	11.94	11.12	10.38	9.712	9.108	8.559	8.061	7.606

	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
2	1.713	1.690	1.668	1.647	1.626	1.605	1.585	1.566	1.547	1.528
3	2.444	2.402	2.361	2.322	2.283	2.246	2.210	2.174	2.140	2.106
4	3.102	3.037	2.974	2.914	2.855	2.798	2.743	2.690	2.639	2.589
5	3.696	3.605	3.517	3.433	3.352	3.274	3.199	3.127	3.058	2.991
6	4.231	4.111	3.998	3.889	3.784	3.685	3.589	3.498	3.410	3.326
7	4.712	4.567	4.423	4.288	4.160	4.039	3.922	3.812	3.706	3.605
8	5.146	4.968	4.799	4.639	4.487	4.344	4.207	4.078	3.954	3.837
9	5.537	5.328	5.132	4.946	4.772	4.607	4.451	4.303	4.163	4.031
10	5.889	5.650	5.426	5.216	5.019	4.833	4.659	4.494	4.339	4.192
11	6.207	5.938	5.687	5.453	5.234	5.029	4.836	4.656	4.486	4.327
12	6.492	6.194	5.918	5.660	5.421	5.197	4.988	4.793	4.611	4.439
13	6.750	6.424	6.122	5.842	5.583	5.342	5.118	4.910	4.715	4.533
14	6.982	6.628	6.302	6.002	5.724	5.468	5.229	5.008	4.802	4.611
15	7.191	6.811	6.462	6.142	5.847	5.575	5.324	5.092	4.876	4.675

Present Value Table

Present value (in $) of a single payment of $1, n years from now, discounted at a rate of r% per annum

Years (n)	Discount rate (r)									
	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
2	0.980	0.961	0.943	0.925	0.907	0.890	0.873	0.857	0.842	0.826
3	0.971	0.942	0.915	0.889	0.864	0.840	0.816	0.794	0.772	0.751
4	0.961	0.924	0.888	0.855	0.823	0.792	0.763	0.735	0.708	0.683
5	0.951	0.906	0.863	0.822	0.784	0.747	0.713	0.681	0.650	0.621
6	0.942	0.888	0.837	0.790	0.746	0.705	0.666	0.630	0.596	0.564
7	0.933	0.871	0.813	0.760	0.711	0.665	0.623	0.583	0.547	0.513
8	0.923	0.853	0.789	0.731	0.677	0.627	0.582	0.540	0.502	0.467
9	0.914	0.837	0.766	0.703	0.645	0.592	0.544	0.500	0.460	0.424
10	0.905	0.820	0.744	0.676	0.614	0.558	0.508	0.463	0.422	0.386
11	0.896	0.804	0.722	0.650	0.585	0.527	0.475	0.429	0.388	0.350
12	0.887	0.788	0.702	0.625	0.557	0.497	0.444	0.397	0.356	0.319
13	0.879	0.773	0.681	0.601	0.530	0.469	0.415	0.368	0.326	0.290
14	0.870	0.758	0.661	0.577	0.505	0.442	0.388	0.340	0.299	0.263
15	0.861	0.743	0.642	0.555	0.481	0.417	0.362	0.315	0.275	0.239
	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
2	0.812	0.797	0.783	0.769	0.756	0.743	0.731	0.718	0.706	0.694
3	0.731	0.712	0.693	0.675	0.658	0.641	0.624	0.609	0.593	0.579
4	0.659	0.636	0.613	0.592	0.572	0.552	0.534	0.516	0.499	0.482
5	0.593	0.567	0.543	0.519	0.497	0.476	0.456	0.437	0.419	0.402
6	0.535	0.507	0.480	0.456	0.432	0.410	0.390	0.370	0.352	0.335
7	0.482	0.452	0.425	0.400	0.376	0.354	0.333	0.314	0.296	0.279
8	0.434	0.404	0.376	0.351	0.327	0.305	0.285	0.266	0.249	0.233
9	0.391	0.361	0.333	0.308	0.284	0.263	0.243	0.225	0.209	0.194
10	0.352	0.322	0.295	0.270	0.247	0.227	0.208	0.191	0.176	0.162
11	0.317	0.287	0.261	0.237	0.215	0.195	0.178	0.162	0.148	0.135
12	0.286	0.257	0.231	0.208	0.187	0.168	0.152	0.137	0.124	0.112
13	0.258	0.229	0.204	0.182	0.163	0.145	0.130	0.116	0.104	0.093
14	0.232	0.205	0.181	0.160	0.141	0.125	0.111	0.099	0.088	0.078
15	0.209	0.183	0.160	0.140	0.123	0.108	0.095	0.084	0.074	0.065