Paper 2.4

Financial Management and Control

PART 2

WEDNESDAY 13 DECEMBER 2006

QUESTION PAPER

Time allowed **3 hours**

This paper is divided into two sections

Section A	This ONE question is compulsory and MUST be answered
Section B	TWO questions ONLY to be answered

Formulae Sheet, Present Value and Annuity Tables are on pages 7, 8 and 9.

Do not open this paper until instructed by the supervisor

This question paper must not be removed from the examination hall

The Association of Chartered Certified Accountants

Section A – This ONE question is compulsory and MUST be attempted

1 Hendil plc, a manufacturer of electronic equipment, has prepared the following draft financial statements for the year that has just ended. These financial statements have not yet been made public.

Profit and loss account	**£000**
Turnover	9,600
Cost of sales	5,568
Gross profit	4,032
Operating expenses	3,408
Profit before interest and tax	624
Interest	156
Profit before tax	468
Taxation	140
Profit after tax	328
Dividends	300
Retained profit	28

Balance Sheet	**£000**	**£000**	**£000**
Fixed assets			2,250
Current assets			
Stocks		1,660	
Debtors		2,110	
Cash		780	
		4,550	
Current liabilities			
Trade creditors	750		
Dividends	300		
Overdraft	450		
		1,500	
Net current assets			3,050
Total assets less current liabilities			5,300
10% debenture, repayable 2015			1,200
			4,100
Capital and reserves			
Ordinary shares, par value 50p			1,000
Profit and loss			3,100
			4,100

Hendil plc pays interest on its overdraft at an annual rate of 6%. The 10% debenture is secured on fixed assets of the company.

Hendil plc plans to invest £1 million in a new product range and has forecast the following financial information:

Year	**1**	**2**	**3**	**4**
Sales volume (units)	70,000	90,000	100,000	75,000
Average selling price (£/unit)	40	45	51	51
Average variable costs (£/unit)	30	28	27	27
Incremental cash fixed costs (£/year)	500,000	500,000	500,000	500,000

The above cost forecasts have been prepared on the basis of current prices and no account has been taken of inflation of 4% per year on variable costs and 3% per year on fixed costs. Working capital investment accounts for £200,000

of the proposed £1 million investment and machinery for £800,000. Hendil uses a four-year evaluation period for capital investment purposes, but expects the new product range to continue to sell for several years after the end of this period. Capital investments are expected to pay back within two years on an undiscounted basis, and within three years on a discounted basis. The company pays tax on profits in the year in which liabilities arise at an annual rate of 30% and claims capital allowances on machinery on a 25% reducing balance basis. Balancing allowances or charges are claimed only on the disposal of assets.

Average data on companies similar to Hendil plc:

Interest cover	6 times
Long-term debt/ equity (book value basis)	50%
Long-term debt/ equity (market value basis)	25%

The ordinary shareholders of Hendil plc require an annual return of 12%. Its ordinary shares are currently trading on the stock market at £1·80 per share. The dividend paid by the company has increased at a constant rate of 5% per year in recent years and, in the absence of further investment, the directors expect this dividend growth rate to continue for the foreseeable future.

Required:

(a) (i) Calculate the ordinary share price of Hendil plc, predicted by the dividend growth model. (4 marks)

(ii) Explain the concept of market efficiency and distinguish between strong form efficiency and semi-strong form efficiency. (6 marks)

(iii) Discuss why the share price predicted by the dividend growth model is different from the current market price. (4 marks)

(b) (i) Using Hendil plc's current average cost of capital of 11%, calculate the net present value of the proposed investment. (14 marks)

(ii) Calculate, to the nearest month, the payback period and the discounted payback period of the proposed investment. (4 marks)

(iii) Discuss the acceptability of the proposed investment and explain ways in which your net present value calculation could be improved. (6 marks)

(c) It has been suggested that the proposed £1 million investment could be financed by a new issue of debentures with an interest rate of 8%, redeemable after 15 years and secured on existing assets of Hendil plc. The existing debentures of the company are trading at £113 per £100 nominal value.

Required:

Evaluate and discuss the suggestion to finance the proposed investment with the new debenture issue described above. Your answer should consider, but not be limited to, the effect of the new issue on:

(i) interest cover;
(ii) gearing;
(iii) ordinary share price. (12 marks)

(50 marks)

Section B – TWO questions ONLY to be attempted

2 Cavic Ltd services custom cars and provides its clients with a courtesy car while servicing is taking place. It has a fleet of 10 courtesy cars which it plans to replace in the near future. Each new courtesy car will cost £15,000. The trade-in value of each new car declines over time as follows:

Age of courtesy car (years)	1	2	3
Trade-in value (£/car)	11,250	9,000	6,200

Servicing and parts will cost £1,000 per courtesy car in the first year and this cost is expected to increase by 40% per year as each vehicle grows older. Cleaning the interior and exterior of each courtesy car to keep it up to the standard required by Cavic's clients will cost £500 per car in the first year and this cost is expected to increase by 25% per year.

Cavic Ltd has a cost of capital of 10%. Ignore taxation and inflation.

Required:

(a) Using the equivalent annual cost method, calculate whether Cavic Ltd should replace its fleet after one year, two years, or three years. (12 marks)

(b) Discuss the causes of capital rationing for investment purposes. (4 marks)

(c) Explain how an organisation can determine the best way to invest available capital under capital rationing. Your answer should refer to the following issues:

(i) single-period capital rationing;
(ii) multi-period capital rationing;
(iii) project divisibility;
(iv) the investment of surplus funds. (9 marks)

(25 marks)

3 Extracts from the recent financial statements of Anjo plc are as follows:

Profit and loss accounts	**2006**	**2005**
	£000	**£000**
Turnover	15,600	11,100
Cost of sales	9,300	6,600
Gross profit	6,300	4,500
Administration expenses	1,000	750
Profit before interest and tax	5,300	3,750
Interest	100	15
Profit before tax	5,200	3,735

Balance sheets		**2006**		**2005**
	£000	**£000**	**£000**	**£000**
Fixed assets		5,750		5,400
Current assets				
Stocks	3,000		1,300	
Debtors	3,800		1,850	
Cash	120		900	
		6,920		4,050
Current liabilities				
Trade creditors	2,870		1,600	
Overdraft	1,000		150	
		(3,870)		(1,750)
Total assets less current liabilities		8,800		7,700

All sales were on credit. Anjo plc has no long-term debt. Credit purchases in each year were 95% of cost of sales. Anjo plc pays interest on its overdraft at an annual rate of 8%. Current sector averages are as follows:

Stock days: 90 days Debtor days: 60 days Creditor days: 80 days

Required:

(a) Calculate the following ratios for each year and comment on your findings.

(i) stock days
(ii) debtor days
(iii) creditor days (6 marks)

(b) Calculate the length of the cash operating cycle (working capital cycle) for each year and explain its significance. (4 marks)

(c) Discuss the relationship between working capital management and business solvency, and explain the factors that influence the optimum cash level for a business. (7 marks)

(d) A factor has offered to take over sales ledger administration and debt collection for an annual fee of 0·5% of credit sales. A condition of the offer is that the factor will advance Anjo plc 80% of the face value of its debtors at an interest rate 1% above the current overdraft rate. The factor claims that it would reduce outstanding debtors by 30% and reduce administration expenses by 2% per year if its offer were accepted.

Required:

Evaluate whether the factor's offer is financially acceptable, basing your answer on the financial information relating to 2006. (8 marks)

(25 marks)

4 (a) Explain three different types of standard that may be used in a standard costing system. (6 marks)

(b) Discuss the key elements of a standard costing system, illustrating your answer with examples where appropriate. Your answer should include a discussion of:

(i) the preparation of standard costs;
(ii) the use of standard costs;
(iii) the review of standard costs. (13 marks)

(c) Discuss the circumstances under which variances arising in a standard costing system should be investigated. (6 marks)

(25 marks)

5 The following information relates to budget period 1 for Leysel Co:

	Budget (60,000 units)	Budget (90,000 units)	Actual for period
Sales	£900,000	£1,350,000	£1,240,000
Raw materials	£450,000	£675,000	£632,400
Labour	£155,000	£207,500	£165,200
Production overheads	£190,000	£235,000	£238,000

Actual production and sales in budget period 1 were 80,000 units. Actual labour costs for the period included £50,000 of fixed labour costs. Actual production overheads for the period included £110,000 of fixed production overheads.

Required:

(a) Using a marginal costing approach, prepare a flexed budget for the period and calculate appropriate variances in as much detail as allowed by the information provided above. (10 marks)

(b) In budget period 2, Leysel Co planned to absorb fixed production overheads of £112,500 on a standard labour hour basis. A total of 22,500 standard labour hours were budgeted but only 16,000 labour hours were actually worked in the period. Standard labour hours for actual production were 22,000 hours.

Required:

Calculate the fixed production overhead efficiency variance for period 2 and explain its meaning. (4 marks)

(c) Explain how budgeting can help organisations to achieve their objectives. (11 marks)

(25 marks)

Formulae Sheet

Economic order quantity $= \sqrt{\frac{2C_oD}{C_H}}$

Discount factor $= \frac{1}{(1+r)^n}$

Annuities

Future value $= A\left(\frac{(1+r)^n - 1}{r}\right)$

Present value $= \frac{A}{r}\left(1 - \frac{1}{(1+r)^n}\right)$

Dividend growth model

$P_o = \frac{D_o(1+g)}{(r-g)}$

Miller – Orr Model

Return point = Lower limit + ($\frac{1}{3}$ x spread)

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

Linear regression

$y = a + bx$

$b = \frac{n\sum xy - \sum x \sum y}{n\sum x^2 - (\sum x)^2}$

$a = \frac{\sum y}{n} - \frac{b\sum x}{n}$

$r = \frac{n\sum xy - \sum x \sum y}{\sqrt{n\sum x^2 - (\sum x)^2)(n\sum y^2 - (\sum y)^2)}}$

Indices

Laspeyre price index $= \frac{\sum(p_1 \times q_0)}{\sum(p_0 \times q_o)} \times 100$

Paasche price index $= \frac{\sum(p_1 \times q_1)}{\sum(p_0 \times q_1)} \times 100$

Laspeyre quantity index $= \frac{\sum(q_1 \times p_o)}{\sum(q_0 \times p_o)} \times 100$

Paasche quantity index $= \frac{\sum(q_1 \times p_1)}{\sum(q_0 \times p_1)} \times 100$

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	10·37	9·787	9·253	8·760	8·306	7·887	7·499	7·139	6·805	6·495	11
12	11·26	10·58	9·954	9·385	8·863	8·384	7·943	7·536	7·161	6·814	12
13	12·13	11·35	10·63	9·986	9·394	8·853	8·358	7·904	7·487	7·103	13
14	13·00	12·11	11·30	10·56	9·899	9·295	8·745	8·244	7·786	7·367	14
15	13·87	12·85	11·94	11·12	10·38	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