MANAGERIAL LEVEL

FINANCIAL MANAGEMENT PILLAR

PAPER P8 – FINANCIAL ANALYSIS

P8 – Financial Analysis

This is a Pilot Paper and is intended to be an indicative guide for tutors and students of the style and type of questions that are likely to appear in future examinations. It does not seek to cover the full range of the syllabus learning outcomes for this subject.

Financial Analysis will be a three hour paper with two compulsory sections (20 marks and 30 marks respectively) and one section with a choice of questions for 50 marks.

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SECTION A – 20 MARKS

ANSWER *ALL* EIGHT SUB-QUESTIONS

REQUIRED:

On the indicative ANSWER SHEET, enter either your answer in the space provided where the sub-question requires a written response, or place a circle "O" around the letter that gives the correct answer to the sub-question where a list of distractors has been provided.

If you wish to change your mind about an answer to such a sub-question, block out your first answer completely and then circle another letter. You will not receive marks if more than one letter is circled.

Space has been provided on the four-page answer sheet for workings. If you require further space, please use the last page of your answer book and clearly indicate which question(s) these workings refer to.

You must detach the answer sheet from the question paper and attach it to the inside front cover of your answer book before you hand it to the invigilators at the end of the examination.

Question One

1.1 The consolidated financial statements of P for the year ended 31 March 2004 showed the following balances:

Minority interest in the consolidated balance sheet at 31 March 2004 is $6 million [$3·6 million at 31 March 2003].

Minority interest in the consolidated income statement for the year ended 31 March 2004 is $2 million.

During the year ended 31 March 2004, the group acquired a new 75% subsidiary whose net assets at the date of acquisition were $6·4 million. On 31 March 2004, the group revalued all its properties and the minority interest in the revaluation surplus was $1·5 million. There were no dividends payable to minority shareholders at the beginning or end of the year.

Required:

What is the dividend paid to minority shareholders that will be shown in the consolidated cash flow statement of P for the year ended 31 March 2004?

(Write your answer in the space provided on the answer sheet)

(3 marks)

Financial Analysis

INDICATIVE ANSWER SHEET FOR SECTION A

Write here your full examination number:			
Centre Code			
Hall Code			
Desk Number			

1.1				*$m*
1.2				
1.3	**A**	**B**	**C**	**D**
1.4	**A**	**B**	**C**	**D**
1.5	Missing word in first sentence is			
	Missing word in second sentence is			

THE ANSWER SHEET CONTINUES ON PAGE 4.
SPACE FOR WORKINGS IS AVAILABLE ON PAGES 5 AND 6.

You must detach the answer sheet from the question paper and attach it to the inside front cover of your answer book before you hand it in to the invigilators at the end of the examination.

1.6		
1.7		
		$000
1.8		

Space for workings for Section A

Space for workings for Section A

1.2 D has owned 80% of the equity shares of E since 1 January 1996. E has owned 60% of the equity shares of F since 1 January 1994. The accumulated profits of F at the latest balance sheet date (31 December 2003) stood at $30 million. The accumulated profits of F stood at $12 million on 1 January 1994 and $14 million on 1 January 1996.

Required:

Ignoring goodwill, what will be included in the consolidated accumulated profits of D at 31 December 2003 in respect of F?

(Write your answer in the space provided on the answer sheet)

(3 marks)

1.3 The following statements refer to a situation where an investing enterprise (K) seeks to exert control or influence over another enterprise (L). Assume that K is required to prepare consolidated accounts because of other investments.

(i) If K owns more than 20%, but less than 50% of the equity shares in L, then L is bound to be an associate of K.

(ii) If K controls the operating and financial policies of L, then L cannot be an associate of K.

(iii) If L is an associate of K, then any amounts payable by L to K are not eliminated when preparing the consolidated balance sheet of K.

Which of the statements are true?

A (i) and (ii) only

B (ii) only

C (ii) and (iii) only

D (i) and (iii) only

(2 marks)

1.4 Q has a defined benefit pension plan and prepares financial statements to 31 August 2002. The following additional information is relevant for the year ended 31 August 2003:

The net pension liability at 31 August 2003 is stated before making any adjustment in respect of actuarial gains or losses arising in the year.

No actuarial gains or losses were recognised in the income statement for the year.

The expected return on assets was $60 million.

The unwinding of the discount on the pension liability was $30 million.

The current service cost was $45 million.

The entity granted additional benefits to existing pensioners that vested immediately and that have a present value of $10 million. These were not allowed for in the original actuarial assumptions.

The entity paid pension contributions of $40 million.

Ignoring deferred tax, what is the actuarial gain or loss arising in the year ended 31 August 2004?

A A loss of $5 million

B A loss of $10 million

C A loss of $20 million

D A gain of $20 million

(2 marks)

1.5 Current cost accounting adopts the principle of value to the business. State what the missing words are in the following sentences by writing your answers in the space provided on the answer sheet.

Value to the business is the___________ of replacement cost and recoverable amount.

Recoverable amount is the __________ of realisable value and value in use.

(2 marks)

1.6 Describe, in a maximum of 40 words, the principal requirement of *IAS 29 - Financial reporting in hyper-inflationary economies*.

Write your answer in the space provided on the answer sheet.

(2 marks)

1.7 At 1 April 2003, S held 80,000 of the 100,000 issued ordinary shares of T. The acquisition of T took place on 1 April 2002, and goodwill on acquisition was recorded at $120,000. The directors of S decided to amortise the goodwill on acquisition on the straight-line basis at the rate of 20% each year. On 1 October 2003, S disposes of 20,000 shares in T for $125,000. At that date, T's total net assets are $400,000.

Calculate the consolidated profit or loss before tax on disposal of the shares and write your answer in the space provided on the answer sheet.

(3 marks)

1.8 As well as its investment in T (see question **1.7**), S held 25% of the shares of U, and exerts a significant influence over it. U sells goods to S. During the year ending 31 March 2004, U sells goods to S for $100,000. The cost of the goods to U is $80,000. At the year end, S's inventories include $16,000 of goods purchased from U.

Calculate the adjustment required in respect of unrealised profit, and describe the accounting treatment of the adjustment in the consolidated income statement and the consolidated balance sheet. Write your answer in the space provided on the answer sheet.

(3 marks)

(Total = 20 marks)

End of Section A

SECTION B – 30 MARKS

ANSWER *ALL* THREE QUESTIONS

Question Two

JKL is a listed entity preparing financial statements to 31 August. At 1 September 2003, JKL had 6,000,000 50¢ shares in issue. On 1 February 2004, the entity made a rights issue of 1 for 4 at 125¢ per share; the issue was successful and all rights were taken up. The market price of one share immediately prior to the issue was 145¢ per share. Earnings after tax for the year ended 31 August 2004 were $2,763,000.

Several years ago, JKL issued a convertible loan of $2,000,000. The loan carries an interest rate of 7% and its terms of conversion (which are at the option of the stockholder) are as follows:

For each $100 of loan inventory:

Conversion at 31 August 2008	105 shares
Conversion at 31 August 2009	103 shares

JKL is subject to an income tax rate of 32%.

Required:

(a) Calculate basic earnings per share and diluted earnings per share for the year ended 31 August 2004.

(7 marks)

(b) The IASC *Framework for the preparation and presentation of financial statements* states that the objective of financial statements is to provide information that is

> "useful to a wide range of users in making economic decisions".

Explain to a holder of ordinary shares in JKL both the usefulness and limitations of the diluted earnings per share figure.

(3 marks)

(Total = 10 marks)

Question Three

XYZ is a listed entity engaged in the provision of recruitment services, preparing financial statements to 30 June each year. Part of the directors' long term strategy is to identify opportunities for the takeover of other related businesses. In 1997, the directors decided to expand their operations into the second major city of the country in which XYZ operates by taking over an existing recruitment agency. On 1 July 1997, XYZ paid $14,700,000 for 80% of the shares in the successful AB Agency. At that date, AB had 1,000,000 shares in issue at a nominal value of $1 each, and accumulated profits were $2,850,000. At the date of acquisition, AB's brand name was valued by specialists at $2,900,000 and following the acquisition it has been recognised in the consolidated financial statements of XYZ. Apart from accumulated profits, AB has no other reserves.

AB has continued to be very successful and, therefore, XYZ's directors have been seeking further acquisitions. On 1 April 2003, XYZ gained control of a small on-line recruitment business, paying $39·60 per share to acquire 60,000 out of 100,000 issued shares in the CD Agency. The nominal value of each share in CD is $1. CD's accumulated profits at 1 July 2002 were $700,000; at 30 June 2003, they were $780,000. CD paid no dividends during the year ended 30 June 2003. CD's profits can be assumed to accrue evenly over time. Since acquisition CD has continued to produce growth in both profit and market share.

XYZ's directors estimate that the useful economic life of goodwill arising upon each of these acquisitions is ten years. Their accounting policy is to amortise goodwill on acquisition on the straight-line basis over the estimated useful economic life of the asset, with a full year's amortisation charged in the year of acquisition. XYZ has no investments other than those in AB and CD.

Required:

(a) Calculate the balance of goodwill on acquisition to be included in the consolidated financial statements of XYZ for the year ended 30 June 2004.

(6 marks)

(b) Discuss the effects on the measurement of goodwill in XYZ's consolidated balance sheet if the proposals in the IASB's recent exposure draft, *ED 3 – Business combinations*, had been adopted in respect of these acquisitions.

(4 marks)

(Total = 10 marks)

Question Four

The directors of QRS, a listed entity, have met to discuss the business's medium to long term financing requirements. Several possibilities were discussed, including the issue of more shares using a rights issue. In many respects this would be the most desirable option because the entity is already quite highly geared. However, the directors are aware of several recent cases where rights issues have not been successful because share prices are currently quite low and many investors are averse to any kind of investment in shares.

Therefore, the directors have turned their attention to other options. The finance director is on sick leave, and so you, her assistant, have been given the task of responding to the following note from the Chief Executive:

> "Now that we've had a chance to discuss possible financing arrangements, the directors are in agreement that we should structure our issue of financial instruments in order to be able to classify them as equity rather than debt. Any increase in the gearing ratio would be unacceptable. Therefore, we have provisionally decided to make two issues of financial instruments as follows:
>
> 1. An issue of non-redeemable preferred shares to raise $4 million. These shares will carry a fixed interest rate of 6%, and because they are shares they can be classified as equity.
>
> 2. An issue of 6% convertible bonds, issued at par value, to raise $6 million. These bonds will carry a fixed date for conversion in four years' time. Each $100 of debt will be convertible at the holder's option into 120 $1 shares. In our opinion, these bonds can actually be classified as equity immediately, because they are convertible within five years on terms that are favourable to the holder.
>
> Please confirm that these instruments will not increase our gearing ratio should they be issued."

Note: You determine that the market rate available for similar non-convertible bonds is currently 8%.

Required:

Explain to the directors the accounting treatment, in respect of debt/equity classification, required by *IAS 32 – Financial instruments: disclosure and presentation* for each of the proposed issues, advising them on the acceptability of classifying the instruments as equity.

Your explanation should be accompanied by calculations where appropriate.

(Total = 10 marks)

End of Section B

Question Five

Little was incorporated over twenty years ago, operating as an independent entity for fifteen years until 1998 when it was taken over by Large. Large's directors decided that the local expertise of Little's management should be utilised as far as possible, and since the takeover they have allowed the subsidiary to operate independently, maintaining its existing supplier and customer bases. Large exercises "arms' length" strategic control, but takes no part in day-to-day operational decisions.

The balance sheets of Large and Little at 31 March 2004 are given below. The balance sheet of Little is prepared in francos (*F*), its reporting currency.

	Large		*Little*	
	$000	*$000*	*F000*	*F000*
Non-current assets:				
Property, plant and equipment	63,000		80,000	
Investments	12,000		-	
		75,000		80,000
Current assets:				
Inventories	25,000		30,000	
Trade receivables	20,000		28,000	
Cash	6,000		5,000	
		51,000		63,000
		126,000		143,000
Issued capital and reserves:				
Called up share capital				
(50 cents/1 Franco shares)		30,000		40,000
Revaluation reserve		-		6,000
Accumulated profits		35,000		34,000
		65,000		80,000
Non-current liabilities:				
Interest-bearing borrowings	20,000		25,000	
Deferred tax	6,000		10,000	
		26,000		35,000
Current liabilities:				
Trade payables	25,000		20,000	
Tax	7,000		8,000	
Bank overdraft	3,000		-	
		35,000		28,000
		126,000		143,000

NOTES TO THE BALANCE SHEETS

Note 1 – Investment by Large in Little
On 1 April 1998 Large purchased 36,000 shares in Little for 72 million francos. The accumulated profits of Little at that date were 26 million francos. Large's accounting policy in respect of goodwill on acquisition is to amortise it on a straight-line basis over five years.

Note 2 – Intra-group trading
Little sells goods to Large, charging a mark-up of one-third on production cost. At 31 March 2004, Large held $1 million (at cost to Large) of goods purchased from Little in its inventories. The goods were purchased during March 2004 and were recorded by Large using an exchange rate of $1 = 5 francos. (There were minimal fluctuations between the two currencies during March 2003). At 31 March 2003, Large's inventories included no goods purchased from Little. On 29 March 2004, Large sent Little a cheque for $1 million to clear the intra-group payable. Little received and recorded this cash on 3 April 2004.

Note 3 – Accounting policies
The accounting policies of the two companies are the same, except that the directors of Little have decided to adopt a policy of revaluation of property, whereas Large includes all property in its balance sheet at depreciated historical cost. Until 1 April 2003, Little operated from rented warehouse premises. On that date, the entity purchased a leasehold building for 25 million francos, taking out a long-term loan to finance the purchase. The building's estimated useful life at 1 April 2003 was 25 years, with an estimated residual value of nil, and the directors decided to adopt a policy of straight-line depreciation. The building was professionally revalued at 30 million francos on 31 March 2004, and the directors have included the revalued amount in the balance sheet. No other property was owned by Little during the year.

Note 4 – Exchange rates

Date	*Exchange rate (francos to $1)*
1 April 1998	6·0
31 March 2003	5·5
31 March 2004	5·0
Weighted average for the year to 31 March 2004	5·2
Weighted average for the dates of acquisition of closing inventory	5·1

Required:

(a) Explain (with reference to relevant accounting standards to support your argument) how the financial statements (balance sheet and income statement) of Little should be translated into $s for the consolidation of Large and Little.
(5 marks)

(b) Translate the balance sheet of Little at 31 March 2004 into $s and prepare the consolidated balance sheet of the Large group at 31 March 2004.
(20 marks)

Note: Ignore any deferred tax implications of the property revaluation and the intra-group trading.
(Total = 25 marks)

Question Six

You are a senior member of the finance team at WXY Products, a well established listed entity. The finance director has asked you to examine the most recent financial statements of a competitor, TUV.

TUV was established in 1997. It commenced trading in mobile phone accessories but has recently expanded its operations into the provision of fashion goods aimed at the 16-25 age group. Two years ago it obtained a listing on a secondary share trading market. There has been a recent report in the financial press speculating that, under the leadership of the recently appointed Chief Executive Officer (CEO), TUV will seek a full listing on the primary market as soon as possible.

TUV's income statement, balance sheet and statement of changes in equity for the year ended 31 December 2003 are as follows:

TUV: income statement for the year ended 31 December 2003

	2003 *$m*	*2002* *$m*
Revenue	325·4	261·2
Cost of sales	(248·5)	(201·3)
Gross profit	76·9	59·9
Distribution costs	(18·3)	(16·7)
Administrative expenses	(29·4)	(23·5)
Profit from operations	29·2	19·7
Finance cost	(14·2)	(11·2)
Profit before tax	15·0	8·5
Income tax expense	(4·2)	(3·7)
Net profit for the period	10·8	4·8

TUV: Statement of changes in equity for the year ended 31 December 2003

	$m *Share capital*	*$m* *Revaluation reserve*	*$m* *Accumulated profits*	*$m* *Total*
Balance at 31 December 2002	24·2	21·8	32·5	78·5
Surplus on revaluation of properties		58·3		58·3
Share capital: share options	2·3			2·3
Net profit for period			10·8	10·8
Dividends			(3·0)	(3·0)
Balance at 31 December 2003	26·5	80·1	40·3	146·9

TUV: Balance sheet at 31 December 2003

	2003		*2002*	
	$m	*$m*	*$m*	*$m*
Non-current assets:				
Property, plant and equipment	338.5		193.3	
Manufacturing licences	75.2		82.7	
		413.7		276.0
Current assets:				
Inventories	48.7		32.6	
Trade receivables	27.4		26.5	
Cash	-		6.2	
		76.1		65.3
		489.8		341.3
Equity and liabilities:				
Issued share capital	24·2		24.2	
Shares reserved for issue	2·3			
Revaluation reserve	80.1		21.8	
Accumulated profits	40.3		32.5	
		146.9		78.5
Non-current liabilities:				
Interest-bearing borrowings	244.1		219.6	
Deferred tax	26.7		8.2	
		270.8		227.8
Current liabilities:				
Trade payables	59.9		32.4	
Short-term borrowings	12.2		2.6	
		72.1		35.0
		489.8		341.3

Notes to the financial statements include the following information:

1. At the beginning of 2003, TUV introduced a share option scheme for directors and senior staff. The directors have decided to adopt the provisions *of ED 2 – Share-based payment* in these financial statements.

2. TUV has had a policy of revaluation of property since its incorporation. During the year all of the entity's properties were revalued by a professionally qualified valuer on an open market basis.

In addition, you ascertain that WXY Products current price/earnings (P/E) ratio is 37·4. The average P/E in the sector in which both WXY and TUV operate is 23·4 and TUV's P/E currently stands at 13·5 (based on earnings to 31 December 2003).

Required:

The finance director has asked you to prepare a report on the performance, position and prospects of TUV based on the financial statements and supplementary information shown above. In addition, he has requested a brief supplementary note for the directors' consideration about share-based payment.

(a) Prepare the report, which should be supported by relevant accounting ratios.

(20 marks)

(b) Explain, in a supplementary note to the report, the principles and accounting adjustments required by *ED 2 – Share-based payment,* in accounting for share-based payment. Identify the effect on TUV's financial statements.

(5 marks)

(Total 25 marks)

Question Seven

You are a management accountant at EFG, an entity that has recently embarked upon an aggressive programme of acquisitions in order to grow its market share as rapidly as possible. EFG has targeted J, a well-established entity operating in the same sector, but with a significant level of export sales.

In order to be able to respond to opportunities quickly, EFG has established a basic set of four key financial ratios to assess the performance and position of target businesses. If a business's ratios fall within the set criteria, more detailed analysis will follow, prior to the launch of a formal bid.

The four key ratios and the criteria are as follows:

Gross profit margin	Should exceed 25%
Operating profit margin	Should exceed 13%
Return on total capital employed	Should exceed 25%
Gearing (long-term liabilities/shareholders' funds)	Should not exceed 25%

J's most recent financial statements are as follows:

J: income statement for the year ended 31 January 2004

	$000
Revenue	1,810
Cost of sales	(1,381)
Gross profit	429
Operating expenses	(236)
Profit from operations	193
Finance cost	(9)
Profit before tax	184
Income tax expense	(50)
Net profit for the year	134

J: Statement of changes in equity for the year ended 31 January 2004

	$000 Share capital	*$000 Revaluation reserve*	*$000 Accumulated profits*	*$000 Total*
Balance at 1 February 2003	350	210	96	656
Transfer to realised profits		(10)	10	-
Net profit for period			134	134
Dividends			(21)	(21)
Balance at 31 January 2004	350	200	219	769

J: Balance sheet at 31 January 2004

	$000	*$000*
Non-current assets:		
Property, plant and equipment		707
Current assets:		
Inventories	201	
Trade receivables	247	
Cash	18	
		466
		1,173
Equity and liabilities:		
Share capital	350	
Revaluation reserve	200	
Accumulated profits	219	
		769
Non-current liabilities:		
Interest-bearing borrowings		248
Current liabilities:		
Trade payables	142	
Income tax	14	
		156
		1,173

J's directors, who each hold a significant percentage of the ordinary share capital in the entity, are interested in EFG's potential bid, and they have co-operated fully in providing information. On a recent visit to the entity, EFG's finance director has ascertained that, in many respects, the financial and operating policies of the two businesses are very similar.

However, there are some differences, summarised as follows:

1. J has a policy of revaluation of property, but EFG's key ratios are set on the assumption of valuation at depreciated historical cost. J owns one property, a warehouse building that was revalued five years ago. At that time, the revaluation surplus was $250,000, and the estimated useful life of the property was 25 years, assuming a residual value of nil. J depreciates property on the straight-line basis.

2. J employs a highly skilled team of sales representatives who are paid a substantial profit-related bonus at the end of each year. For the year ended 31 January 2004, the total bonus paid was $96,000, included in operating expenses. EFG's operating policy does not include the payment of bonuses to staff; the directors prefer to reward staff by a fixed salary. The financial controller estimates that EFG's operating policy would involve payment of additional fixed salaries of $50,000 instead of the bonus.

3. The issued share capital of J includes $50,000 of 4% preferred inventory. The directors of EFG believe that this should be classified as a long-term liability.

4. J values inventories using an average cost basis, whereas EFG's valuation policy is first in, first out (FIFO). J's accountants have estimated that the valuation of their opening and closing inventories on a FIFO basis would be:

At 1 February 2003	$208,000
At 31 January 2004	$218,000

J's opening inventories at average cost were $197,000.

Required:

(a) Calculate the four key financial ratios for J before making any adjustments in respect of changes required by EFG's financial and operating policies.

(2 marks)

(b) Calculate the four key financial ratios for J after making adjustments in respect of changes required by EFG's financial and operating policies. (For this purpose assume that the alteration in respect of the remuneration of sales representatives would take effect from 1 February 2003). Using EFG's criteria, advise the directors on whether or not they should pursue the potential acquisition of J.

(16 marks)

(c) Discuss the principal advantages and limitations of EFG's approach to the initial appraisal of acquisition opportunities, identifying any specific weaknesses in the appraisal of J.

(7 marks)

(Total = 25 marks)

NOTE: ignore any deferred tax implications

End of question paper

Maths Tables and Formulae follow on pages 21-26

PRESENT VALUE TABLE

Present value of £1 ie $(1 + r)^{-n}$ where r = interest rate; n = number of periods until payment or receipt.

Periods	Interest rates (r)																			
(n)	1%	2%	3%	4%	5%	6%	7%	8%	9%	10%	11%	12%	13%	14%	15%	16%	17%	18%	19%	20%
1	.990	.980	.971	.962	.952	.943	.935	.926	.917	.909	.901	.893	.885	.877	.870	.862	.855	.847	.840	.833
2	.980	.961	.943	.925	.907	.890	.873	.857	.842	.826	.812	.797	.783	.769	.756	.743	.731	.718	.706	.694
3	.971	.942	.915	.889	.864	.840	.816	.794	.772	.751	.731	.712	.693	.675	.658	.641	.624	.609	.593	.579
4	.961	.924	.888	.855	.823	.792	.763	.735	.708	.683	.659	.636	.613	.592	.572	.552	.534	.516	.499	.482
5	.951	.906	.863	.822	.784	.747	.713	.681	.650	.621	.593	.567	.543	.519	.497	.476	.456	.437	.419	.402
6	.942	.888	.837	.790	.746	.705	.666	.630	.596	.564	.535	.507	.480	.456	.432	.410	.390	.370	.352	.335
7	.933	.871	.813	.760	.711	.665	.623	.583	.547	.513	.482	.452	.425	.400	.376	.354	.333	.314	.296	.279
8	.923	.853	.789	.731	.677	.627	.582	.540	.502	.467	.434	.404	.376	.351	.327	.305	.285	.266	.249	.233
9	.914	.837	.766	.703	.645	.592	.544	.500	.460	.424	.391	.361	.333	.308	.284	.263	.243	.225	.209	.194
10	.905	.820	.744	.676	.614	.558	.508	.463	.422	.386	.352	.322	.295	.270	.247	.227	.208	.191	.176	.162
11	.896	.804	.722	.650	.585	.527	.475	.429	.388	.350	.317	.287	.261	.237	.215	.195	.178	.162	.148	.135
12	.887	.788	.701	.625	.557	.497	.444	.397	.356	.319	.286	.257	.231	.208	.187	.168	.152	.137	.124	.112
13	.879	.773	.681	.601	.530	.469	.415	.368	.326	.290	.258	.229	.204	.182	.163	.145	.130	.116	.104	.093
14	.870	.758	.661	.577	.505	.442	.388	.340	.299	.263	.232	.205	.181	.160	.141	.125	.111	.099	.088	.078
15	.861	.743	.642	.555	.481	.417	.362	.315	.275	.239	.209	.183	.160	.140	.123	.108	.095	.084	.074	.065
16	.853	.728	.623	.534	.458	.394	.339	.292	.252	.218	.188	.163	.141	.123	.107	.093	.081	.071	.062	.054
17	.844	.714	.605	.513	.436	.371	.317	.270	.231	.198	.170	.146	.125	.108	.093	.080	.069	.060	.052	.045
18	.836	.700	.587	.494	.416	.350	.296	.250	.212	.180	.153	.130	.111	.095	.081	.069	.059	.051	.044	.038
19	.828	.686	.570	.475	.396	.331	.277	.232	.194	.164	.138	.116	.098	.083	.070	.060	.051	.043	.037	.031
20	.820	.673	.554	.456	.377	.312	.258	.215	.178	.149	.124	.104	.087	.073	.061	.051	.043	.037	.031	.026

CUMULATIVE PRESENT VALUE OF £1

This table shows the Present Value of £1 per annum, Receivable or Payable at the end of each year for n years $\frac{1-(1+r)^{-n}}{r}$.

Periods	Interest rates (r)																			
(n)	1%	2%	3%	4%	5%	6%	7%	8%	9%	10%	11%	12%	13%	14%	15%	16%	17%	18%	19%	20%
1	.990	.980	.971	.962	.952	.943	.935	.926	.917	.909	.901	.893	.885	.877	.870	.862	.855	.847	.840	.833
2	1.970	1.942	1.913	1.886	1.859	1.833	1.808	1.783	1.759	1.736	1.713	1.690	1.668	1.647	1.626	1.605	1.585	1.566	1.547	1.528
3	2.941	2.884	2.829	2.775	2.723	2.673	2.624	2.577	2.531	2.487	2.444	2.402	2.361	2.322	2.283	2.246	2.210	2.174	2.140	2.106
4	3.902	3.808	3.717	3.630	3.546	3.465	3.387	3.312	3.240	3.170	3.102	3.037	2.974	2.914	2.855	2.798	2.743	2.690	2.639	2.589
5	4.853	4.713	4.580	4.452	4.329	4.212	4.100	3.993	3.890	3.791	3.696	3.605	3.517	3.433	3.352	3.274	3.199	3.127	3.058	2.991
6	5.795	5.601	5.417	5.242	5.076	4.917	4.767	4.623	4.486	4.355	4.231	4.111	3.998	3.889	3.784	3.685	3.589	3.498	3.410	3.326
7	6.728	6.472	6.230	6.002	5.786	5.582	5.389	5.206	5.033	4.868	4.712	4.564	4.423	4.288	4.160	4.039	3.922	3.812	3.706	3.605
8	7.652	7.325	7.020	6.733	6.463	6.210	5.971	5.747	5.535	5.335	5.146	4.968	4.799	4.639	4.487	4.344	4.207	4.078	3.954	3.837
9	8.566	8.162	7.786	7.435	7.108	6.802	6.515	6.247	5.995	5.759	5.537	5.328	5.132	4.946	4.772	4.607	4.451	4.303	4.163	4.031
10	9.471	8.983	8.530	8.111	7.722	7.360	7.024	6.710	6.418	6.145	5.889	5.650	5.426	5.216	5.019	4.833	4.659	4.494	4.339	4.192
11	10.368	9.787	9.253	8.760	8.306	7.887	7.499	7.139	6.805	6.495	6.207	5.938	5.687	5.453	5.234	5.029	4.836	4.656	4.486	4.327
12	11.255	10.575	9.954	9.385	8.863	8.384	7.943	7.536	7.161	6.814	6.492	6.194	5.918	5.660	5.421	5.197	4.988	4.793	4.611	4.439
13	12.134	11.348	10.635	9.986	9.394	8.853	8.358	7.904	7.487	7.103	6.750	6.424	6.122	5.842	5.583	5.342	5.118	4.910	4.715	4.533
14	13.004	12.106	11.296	10.563	9.899	9.295	8.745	8.244	7.786	7.367	6.982	6.628	6.302	6.002	5.724	5.468	5.229	5.008	4.802	4.611
15	13.865	12.849	11.938	11.118	10.380	9.712	9.108	8.559	8.061	7.606	7.191	6.811	6.462	6.142	5.847	5.575	5.324	5.092	4.876	4.675
16	14.718	13.578	12.561	11.652	10.838	10.106	9.447	8.851	8.313	7.824	7.379	6.974	6.604	6.265	5.954	5.668	5.405	5.162	4.938	4.730
17	15.562	14.292	13.166	12.166	11.274	10.477	9.763	9.122	8.544	8.022	7.549	7.120	6.729	6.373	6.047	5.749	5.475	5.222	4.990	4.775
18	16.398	14.992	13.754	12.659	11.690	10.828	10.059	9.372	8.756	8.201	7.702	7.250	6.840	6.467	6.128	5.818	5.534	5.273	5.033	4.812
19	17.226	15.679	14.324	13.134	12.085	11.158	10.336	9.604	8.950	8.365	7.839	7.366	6.938	6.550	6.198	5.877	5.584	5.316	5.070	4.843
20	18.046	16.351	14.878	13.590	12.462	11.470	10.594	9.818	9.129	8.514	7.963	7.469	7.025	6.623	6.259	5.929	5.628	5.353	5.101	4.870

Formulae

Annuity
Present value of an annuity of £1 per annum receivable or payable for *n* years, commencing in one year, discounted at *r*% per annum:

$$PV = \frac{1}{r}\left[1 - \frac{1}{[1+r]^n}\right]$$

Perpetuity
Present value of £1 per annum, payable or receivable in perpetuity, commencing in one year, discounted at *r*% per annum:

$$PV = \frac{1}{r}$$

Growing Perpetuity
Present value of £1 per annum, receivable or payable, commencing in one year, growing in perpetuity at a constant rate of *g*% per annum, discounted at *r*% per annum:

$$PV = \frac{1}{r-g}$$

SOLUTIONS TO PILOT PAPER

> **Note:**
> In some cases, these solutions are more substantial and wide ranging than would be expected of candidates under exam conditions. They provide background on theorists, frameworks and approaches to guide tutors and students in their preparation, studies and revision.

SECTION A

Answer to Question One

1.1 The reconciliation of the movement on the minority interest account is as follows:

	$m
Opening balance	3·6
Profit for the year	2·0
Acquisition (25% x $6·4 million)	1·6
Revaluation	1·5
Dividend (balance)	(2·7)
Closing balance	6·0

1.2 The effective interest of D in F is 48% (80% x 60%). This interest was acquired on 1 January 1996 when E became a subsidiary of D. Therefore the post acquisition profits of F are $16 million ($30 million - $14 million). The group share (48%) of this figure is $7·68 million.

1.3 The answer is C

1.4 A reconciliation of the net pension liability is given below:

	$m
Opening position	(35)
Expected return on assets	60
Unwinding of discount	(30)
Current service cost	(45)
Additional benefits	(10)
Pension contributions	40
Actuarial loss (balancing figure)	(20)
Closing position	(40)

Therefore the answer is C

1.5 Value to the business is the lower of replacement cost and recoverable amount.

Recoverable amount is the higher of realisable value and value in use.

1.6 The financial statements of an entity that reports in the currency of a hyperinflationary economy should be stated in terms of the measuring unit current at the balance sheet date.

1.7 Disposal of 20,000 shares in T: consolidated profit before tax on disposal:

	$000
Disposal proceeds	125
Share of net assets (20% x $400,000)	(80)
Less unamortised goodwill: $120,000 x 3·5/5 x 20/80	(21)
Consolidated profit on disposal	24

1.8 U charges a mark-up of 25% on cost (100 - 80/80), so unrealised profit in inventory at 31 March 2004 is $16,000 x 25/125 = $3,200.

In the consolidated balance sheet, consolidated inventory is reduced by $3,200. In the consolidated income statement, $3,200 is deducted from "share of profits of associates".

Answer to Question Two

Requirement (a)

(W1) *Calculate the theoretical ex-rights price after the rights issue*

	¢
4 shares x 145¢	580
1 share x 125¢	125
Theoretical value of holding of 5 shares	705
Theoretical ex-rights price of 1 share after rights issue: 705/5	141

(W2) *Calculate bonus fraction*

$$\frac{\text{Fair value of one share before rights issue}}{\text{Theoretical ex-rights price of one share (W1)}} = \frac{145}{141}$$

(W3) *Weighted average number of shares in issue in the year to 31 August 2004*

	Number of shares
1 September 2003 – 1 February 2004	
6,000,000 x 145/141 x 5/12	2,570,922
1 February 2004 – 31 August 2004	
7,500,000 x 7/12	4,375,000
	6,945,922

Basic earnings per share: $\frac{2{,}763{,}000}{6{,}945{,}922} = 39\cdot8¢$

(W4) *Adjustment to earnings for calculation of diluted EPS*

	$
Earnings	2,763,000
Add: Interest after tax	
(2,000,000 x 7%) x (1 - 0·32)	95,200
Diluted earnings	2,858,200

(W5) *Adjustment to number of shares for calculation of diluted EPS*

Note: Use the most advantageous (for loan stockholders) conversion rate.

	Number of shares
Weighted average shares in issue in year to 31 August 2004 (W3)	6,945,922
Add: Dilutive effect 2,000,000/100 x 105	2,100,000
Diluted shares	9,045,922

Diluted EPS: $\frac{2{,}858{,}200}{9{,}045{,}922} = 31\cdot6¢$

Requirement (b)

Much of the information contained in financial statements refers to events that have occurred in the past, and so it is of relatively restricted usefulness in making decisions. Diluted earnings per share, however, can be quite useful to investors and potential investors in that it incorporates some information about likely future events. Where potentially dilutive financial instruments have been issued, it is helpful to investors to be able to appreciate the impact full dilution would have upon the earnings of the business. However, it should be appreciated that only some elements of the calculation relate to the future. One of the key elements of the calculation, the basic earnings for the period, relates to events that have already taken place, and that may not be replicated in the future.

Answer to Question Three

Requirement (a)

(W1) *Goodwill on AB acquisition (80% acquired)*

	$000
Acquisition at cost	14,700
Share capital acquired (1,000 x 80%)	(800)
Share of accumulated profits at date of acquisition	
(2,850 x 80%)	(2,280)
Share of brand (2,900 x 80%)	(2,320)
Goodwill on acquisition	9,300
At 30 June 2004	
Goodwill amortised: 7/10 x 9,300	(6,510)
Unamortised goodwill	2,790

(W2) *Goodwill on CD acquisition (60% acquired)*

	$000
Acquisition at cost ($39·60 x 60,000 shares)	2,376
Share capital acquired	(60)
Share of accumulated profits at date of acquisition	
(700 + [9/12 x {780 - 700}]) x 60%	(456)
Goodwill on acquisition	1,860
At 30 June 2004	
Goodwill amortised: 2/10 x 1,860	(372)
Unamortised goodwill	1,488

The balance of goodwill on acquisition to be included in XYZ's consolidated financial statements at 30 June 2004 is $4,278,000 ($2,790,000 + $1,488,000).

Requirement (b)

ED 3 – Business combinations proposes that goodwill on acquisition should be recognised at cost, and carried at cost less any accumulated impairment losses. No regular amortisation of goodwill would take place, but it would be subject to annual impairment review.

In the case of XYZ, much of the acquisition value of its subsidiaries comprises goodwill, as might be expected in businesses that are selling skilled services rather than goods. Therefore, the application of ED 3 to these acquisitions would have had a material effect on the consolidated financial statements. Both AB and CD have continued to be successful, and so it is quite likely that no impairment losses would have been recognised by June 2004. Under ED 3, no amortisation of goodwill would have taken place, and so total asset value and accumulated profits could have been nearly $7 million higher.

Answer to Question Four

In general, under the requirements of *IAS 32 – Financial instruments: disclosure and presentation* – financial instruments that fulfil the characteristics of a liability should be classified as such. Although preferred shares carry the description of “shares” this does not mean that they can necessarily be classified as equity. In cases where the payment of the “dividend” is a fixed sum that is normally paid in respect of each accounting period, the instrument is really a long-term liability and must be classified as such.

The convertible bonds would be classified as a compound, or hybrid, instrument by IAS 32; that is, they have characteristics of both debt and equity, and would therefore be presented partly as debt and partly as equity in the balance sheet. Valuation of the equity element is often difficult. One method permitted by IAS 32 involves valuation of the liability element using an equivalent market rate of interest for non-convertible bonds, with equity as a residual figure.

> **Tutorial note:** IAS 32 also permits the use of a pricing model to value the equity element, but the question does not contain sufficient information to use this approach.

Applying this approach to the proposed instrument, the following debt/equity split results:

	$
Present value of the capital element of the bond issue:	
$6 million x $1/(1{\cdot}08^4)$	4,410,000
Interest at present value:	
($6,000,000 x 6%) x $(1/(1{\cdot}08) + 1/(1{\cdot}08^2) + 1/(1{\cdot}08^3) + 1/(1{\cdot}08^4))$	
= $360,000 x 3·312 (from tables)	1,192,320
Value of liability element	5,602,320
Equity element (balancing figure)	397,680
Total value of instrument	6,000,000

Apart from the relatively small element of the hybrid instrument that can be classified as equity, the two proposed issues will be classified as debt under the provisions of IAS 32. If the directors wish to obtain finance through an issue of financial instruments that can be properly classified as equity, they should reconsider the rights issue proposal.

Answer to Question Five

Requirement (a)

It is clear from the information contained in the question that, on a day-to-day basis, Little operates as a relatively independent entity, with its own supplier and customer bases. Therefore, the cash flows of Little do not have a day-to-day impact on the cash flows of Large. In these circumstances, IAS 21 – *The effects of changes in foreign exchange rates* – requires that the financial statements be translated using the closing rate (or net investment) method. This involves translating the net assets in the balance sheet at the spot rate of exchange at the balance sheet date and the net profit in the income statement at a weighted average rate for the year. Exchange differences are reported as a movement on equity as they do not impact on the cash flows of the group until the relevant investment is disposed of.

Requirement (b)

Step 1 – adjust Little's balance sheet to reflect group accounting policies:

		F000
DR	Revaluation reserve	6,000
CR	Property, plant and equipment	6,000

Step 2 – translate the balance sheet of Little into $ (after incorporating the adjustment in step 1)

	F000	*Rate*	*$000*
Non-current assets (80,000 - 6,000)	74,000	5	14,800
Inventories	30,000	5	6,000
Trade receivables	28,000	5	5,600
Cash	5,000	5	1,000
	137,000		27,400
Share capital	40,000	6	6,667
Revaluation reserve (6,000 - 6,000)	-		-
Accumulated profits:			
Pre-acquisition	26,000	6	4,333
Post-acquisition (34,000 - 26,000)	8,000	Balance	3,800
	74,000		14,800
Interest-bearing borrowings	25,000	5	5,000
Deferred tax	10,000	5	2,000
Trade payables	20,000	5	4,000
Tax	8,000	5	1,600
	137,000		27,400

Step 3 – prepare the consolidated balance sheet

	$000	*$000*
Non-current assets:		
Property, plant and equipment (63,000 + 14,800)		77,800
Current assets:		
Inventories (25,000 + 6,000 - 250)	30,750	
Trade receivables (20,000 + 5,600 - 1,000)	24,600	
Cash (6,000 + 1,000 + 1,000)	8,000	
		63,350
		141,150
Capital and reserves:		
Called up share capital		30,000
Accumulated profits (W5)		36,095
Minority interest (W4)		1,455
		67,550
Non-current liabilities:		
Interest-bearing borrowings (20,000 + 5,000)	25,000	
Deferred tax (6,000 + 2,000)	8,000	
		33,000
Current liabilities:		
Trade payables (25,000 + 4,000)	29,000	
Tax (7,000 + 1,600)	8,600	
Overdraft	3,000	
		40,600
		141,150

Workings

(W1) *Group structure*
Large owns 36 million of the 40 million Little shares in issue. This is a **90%** subsidiary.

(W2) *Goodwill on acquisition*

	$000
Investment at cost	12,000
Less share capital acquired (36,000/6)	(6,000)
Less accumulated profits at acquisition ([26,000 x 90%]/6)	(3,900)
Goodwill on acquisition	2,100

Goodwill was completely amortised by 31 March 2003, five years after acquisition.

(W3) *Intra-group trading*
Cost to Large includes 1/3 mark-up on Little's production cost. The unrealised profit in Little is therefore: $1 million x 25% = $250,000. Of this 90% ($225,000) should be adjusted through consolidated reserves and 10% ($25,000) through minority interest. Cash in transit of $1 million must be added to consolidated cash and deducted from consolidated receivables.

(W4) *Minority interest*

Minority's share of net assets in Little: 10% x $14,800 =	1,480
Less adjustment for intra-group trading (W3)	(25)
	1,455

(W5) *Accumulated profits*

	$000
Large	35,000
Little (share of post-acquisition: 3,800 x 90%)	3,420
Less goodwill amortised (W2)	(2,100)
Less unrealised profit (W3)	(225)
	36,095

Answer to Question Six

Requirement (a)

To: Finance Director

From: Senior Member, Finance Team

Report on the financial statements of TUV for the year ended 31 December 2003

The margin ratios included in the appendix to this report show that TUV's profitability has grown between 2002 and 2003. However, return on capital employed is not particularly impressive. Return on shareholders' funds has actually fallen, because of the large increase in revaluation reserve.

The business is very short of cash. As well as the increase in long-term borrowings between 2002 and 2003, short-term credit in the form of trade payables has almost doubled, and by the end of 2003 there are substantial short-term borrowings. There is no cash in the business at 31 December 2003, and it is clear that the entity has been aggressively pursuing its debtors for payment: receivable days have fallen from a very respectable 37 days to just under 31 days. The business would no doubt struggle to reduce this figure still further. Inventories have built up, suggesting that there may be some supply chain problems. While the business is not technically insolvent, the current and acid test ratios show that short-term liquidity is a serious problem. The figures reveal elements of over-trading, and the entity may find that its current rate of growth cannot be sustained without obtaining substantial amounts of new finance.

There is a very high level of gearing in the entity, and there would appear to be a pressing need to boost equity financing sooner rather than later. The gearing ratio has fallen between 2002 and 2003, but this is mainly due to the effects of the property revaluation. It may be that the revaluation was undertaken expressly with the view of improving the gearing ratio, as the entity's long-term lenders are likely to be very unhappy with the current position of the business. Finance costs have increased at a faster rate than borrowings, suggesting that lenders are handling their increased level of risk by putting up the rate of interest where it is possible to do so. Interest cover has improved between the two years, and if profit growth can be sustained it may well improve again. However, profit is not the same as cash, and at December 2003 there is no cash available to service the debt.

The P/E ratio is a measure of the market's view of the relative riskiness of an investment. TUV's P/E is substantially lower than average; it suggests that investors view the inventory as risky relative to the rest of the sector. Entities listed on secondary markets are usually regarded as riskier in any case – often they have a limited trading

record, and their shares may be relatively illiquid. Even bearing that point in mind, though, TUV may represent a poor risk.

In summary, TUV is clearly profitable. However, its very high gearing and lack of cash could threaten its operations in the near future.

APPENDIX

Financial ratio calculations (figures in $m)

	2003	*2002*
Profitability		
Gross profit margin	76·9/325·4 x 100 = 23·6%	59·9/261·2 x 100 = 22·9%
Operating profit margin	29·2/325·4 x 100 = 9·0%	19·7/261·2 x 100 = 7·5%
Return on capital employed	29·2/403·2 (W1) x 100 = 7·2%	19·7/300·7 (W1) x 100 = 6·6%
Return on shareholders' funds	15·0/146·9 x 100 = 10·2%	8·5/78·5 x 100 = 10·8%
Activity ratios		
Inventory turnover (in days)	48·7/248·5 x 365 = 71·5 days	32.6/201·3 x 365 = 59·1 days
Receivables turnover (in days)	27·4/325·4 x 365 = 30·7 days	26.5/261·2 x 365 = 37 days
Liquidity ratios		
Current ratio	76·1/72·1 = 1·06 : 1	65·3/35·0 = 1·87 : 1
Acid test ratio	27·4/72·1 = 0·38 : 1	(26·5 + 6·2)/35·0 = 0·93 : 1
Gearing ratio (long-term debt/ shareholders' funds)	244·1/146·9 x 100 = 166%	219·6/78·5 x 100 = 279·7%
Interest cover	29·2/14·2 = 2·06 times	19·7/11·2 = 1·76 times

(W1) *Return on capital employed:*
Capital employed = Share capital + reserves + long-term and short-term borrowings
2003: $146·9 million + 244·1 million + 12·2 million = $403·2 million
2002: $78·5 million + 219·6 million + 2·6 million = $300·7 million

Requirement (b)

The principle underlying *ED 2 – Share-based payment* is that entities rewarding staff and managers by means of share options or awards should recognise the effects of such transactions in their financial statements at fair value. The adoption of the exposure draft involves calculating and setting off additional charges against income, thus reducing profitability. There is a corresponding increase in equity where the transaction is to be settled eventually by the issue of more shares. Where the settlement is to be in cash, the increase is shown in liabilities.

In the case of TUV, the effect of the introduction of the share option scheme has been to increase equity by $2·3 million. The related charge is probably included in administrative expenses.

Answer to Question Seven

Requirement (a)

Gross profit margin	= 429/1,810 x 100	= 23·7%
Operating profit margin	= 193/1,810 x 100	= 10·7%
Return on total capital employed	= 193/(769 + 248) x 100	= 19·0%
Gearing	= 248/762 x 100	= 32·5%

Requirement (b)

Note 1
The balance on revaluation reserve is $200,000 at 31 January 2004 because each year the entity has transferred $10,000 from non-distributable to distributable reserves. The non-current assets total includes the depreciated balance of the revaluation element in property of $200,000. For the purposes of EFG's analysis, both the revaluation reserve and non-current assets should be reduced by $200,000. In addition, $10,000 should be added back to profit (and deducted from cost of sales) in respect of the current year's depreciation charge on the revalued element.

Note 2
This is a difference in an operating policy rather than in an accounting policy, but it is important to take it into account in estimating the return on capital employed that is potentially achievable in J. Operating expenses would be reduced by $46,000 ($96,000 - $50,000), and so operating profit and profit for the year would increase.

Note 3
Share capital should be reduced by $50,000 to $300,000 and long-term liabilities should be increased by the same amount to $298,000.

Note 4
J's inventories at 31 January 2004 would increase by $17,000 if FIFO were adopted. Of this total, $11,000 ($208,000 - $197,000) would be reflected in accumulated profits brought forward, and the remainder ($6,000) would be a deduction from cost of sales.

Summary of adjustments:
(figures in $000)

Cost of sales:	1,381 - 10 (note 1) - 6 (note 4)	= 1,365
Gross profit therefore:	1,810 - 1,365	= 445
Profit from operations:	193 + 10 (note 1) + 46 (note 2) + 6 (note 4)	= 255
Accumulated profits:	219 + 17 (note 4) + 46 (note 2)	= 282
Total capital employed:	300 (note 3) + 282 + 298 (note 3)	= 880
Shareholders' funds:	300 (note 3) + 282	= 582

Recalculation of four key ratios after adjustments:

Gross profit margin: 445/1,810 x 100	= 24·6%
Operating profit margin: 255/1,810 x 100	= 14·1%
Return on total capital employed: 255/880	= 29·0%
Gearing: 298/582 x 100	= 51·2%

Advice to directors
Prior to the adjustments, none of the four key criteria were met. However, once the adjustments arising from alterations to accounting and operating policies are made, two out of the four criteria are met: operating margin now exceeds the requirement of 13% and return on total capital employed exceeds the requirement of 25%. In addition, it should be noted that gross profit margin falls only marginally short of the requirement. The significant problem lies in the gearing ratio, which is substantially in excess of the requirement. It appears that the acquisition of J should not, therefore, be pursued. However, given that (almost) three of the four criteria are met, the directors may wish to treat J as a borderline case, and subject it to further consideration.

Requirement (c)

The principal advantage of this approach to appraisal of acquisition opportunities is that it constitutes a fairly straightforward screening process. Investigating possible acquisitions requires a great deal of senior management time, and it makes sense to approach the initial analysis systematically so that unsuitable opportunities can be assessed and rejected quickly.

However, there are some significant drawbacks. This initial screening involves the calculation of only four key ratios. It is possible that the analysis is over-simplified, and will allow good investment opportunities to “slip through the net”. Specifically, the insistence on a relatively low level of gearing may be unhelpful. Many successful businesses operate at higher levels of gearing, and, indeed, debt finance is often to be preferred as it tends to be cheaper than financing through equity.

In the specific case of J, the adjustment in respect of the operating policy on staff remuneration may be incomplete. While it may, indeed, be possible to save substantial sums on staff remuneration, members of the skilled sales team are likely to be unimpressed by the change in policy. EFG’s directors should recognise that the implementation of such a policy would probably result in loss of skilled staff, and that there could be consequent reductions in sales. The adjustment made to profit for savings in staff bonus is probably over-optimistic.