



Financial Management Pillar

Managerial Level Paper

P8 – Financial Analysis

21 November 2006 – Tuesday Afternoon Session

Instructions to candidates

You are allowed three hours to answer this question paper.
You are allowed 20 minutes reading time before the examination begins during which you should read the question paper and, if you wish, make annotations on the question paper. However, you will not be allowed, under any circumstances , to open the answer book and start writing or use your calculator during this reading time.
You are strongly advised to carefully read ALL the question requirements before attempting the question concerned (that is all parts and/or sub-questions). The question requirements for questions in Sections B and C are highlighted in a dotted box.
Answer the ONE compulsory question in Section A. This has seven objective test questions on pages 2 to 4.
Answer ALL THREE questions in Section B on pages 6 to 7.
Answer TWO of the three questions in Section C on pages 8 to 13.
Maths Tables are provided on pages 15 to 17. These are detachable for ease of reference.
Write your full examination number, paper number and the examination subject title in the spaces provided on the front of the examination answer book. Also write your contact ID and name in the space provided in the right hand margin and seal to close.
Tick the appropriate boxes on the front of the answer book to indicate which questions you have answered.

P8 – Financial Analysis

TURN OVER

SECTION A – 20 MARKS

[indicative time for answering this Section is 36 minutes]

ANSWER ALL SEVEN SUB-QUESTIONS

Instructions for answering Section A:

The answers to the seven sub-questions in Section A should ALL be written in your answer book.

Your answers should be clearly numbered with the sub-question number and then ruled off, so that the markers know which sub-question you are answering. **For multiple choice questions, you need only write the sub-question number and the letter of the answer option you have chosen.** You do not need to start a new page for each sub-question.

For sub-questions **1.2, 1.3, 1.4** and **1.5**, you should show your workings as marks are available for method for these sub-questions.

Question One

- 1.1** GPX's financial statements included an investment in associate at \$6,600,000 in its consolidated balance sheet at 30 September 2005. At 30 September 2006, the investment in associate had increased to \$6,750,000. GPX's pre-tax share of profit in the associate was \$420,000, with a related tax charge of \$180,000. The net amount of \$240,000 was included in the consolidated income statement for the year ended 30 September 2006.

There were no impairments to the investment in associate, or acquisitions or disposals of shares during the financial year.

What is the amount of the cash flow related to this investment for inclusion in the consolidated cash flow statement for the year ended 30 September 2006?

- A** \$90,000
- B** \$240,000
- C** \$390,000
- D** \$420,000

(2 marks)

- 1.2** CXP owns 75% of the ordinary share capital of its subsidiary, DYQ. The shares were acquired on 1 November 2005 when DYQ's reserves stood at \$152,000. DYQ acquired a 65% investment in its subsidiary, EZR, on 1 May 2005. EZR's reserves were \$189,000 on 1 May 2005, and \$202,000 on 1 November 2005.

Reserves for the three entities at 31 October 2006, the entities' year end, were as follows:

CXP \$266,000

DYQ \$178,000

EZR \$214,000

There had been no impairment of goodwill in respect of either investment since acquisition.

Calculate the balance of consolidated reserves for inclusion in the consolidated balance sheet of the CXP group at 31 October 2006.

(3 marks)

- 1.3** AMY, an entity with a 30 September year end, holds several investments in subsidiaries. On 1 April 2006, it disposed of 10,000 of its 40,000 \$1 shares in its subsidiary BNZ for \$95,000. AMY had acquired the shares, which represented 80% of BNZ's ordinary share capital, on 1 April 2004 for \$250,000, when BNZ's reserves totalled \$186,000. BNZ's net assets at the date of disposal were \$275,000. Since acquisition, there has been no impairment to goodwill.

Calculate the consolidated profit or loss on disposal of the shares for inclusion in AMY's financial statements for the year ended 30 September 2006.

(4 marks)

- 1.4** BJS, a listed entity, had a weighted average of 27 million ordinary shares in issue during its financial year ended 31 August 2006. It was also financed throughout the year by an issue of 12% convertible bonds with a par value of \$50 million. The bonds are convertible at the option of the holders at the rate of 12 new ordinary shares for every \$100 of bonds at par value. The tax rate applicable to BJS was 30% during the financial year. The profit attributable to ordinary shareholders for the year ended 31 August 2006 was \$100 million.

Calculate earnings per share, and diluted earnings per share, for BJS for the year ended 31 August 2006.

(4 marks)

- 1.5** On 1 January 2006, an entity, ABC, issued bonds with a nominal value of \$5 million, incurring \$150,000 in issue costs. The coupon rate of the bonds is 2.5%. They are redeemable on 1 January 2016 at a premium of \$1.75 million.

Calculate the total amount of finance cost associated with the bonds.

(3 marks)

Section A continues on the next page

TURN OVER

1.6 ST, UV and WX are listed entities operating in the same business sector. At 31 October 2006, their P/E ratios were reported as follows:

ST 16.2

UV 12.7

WX 8.4

Which ONE of the following statements about these P/E ratios is correct?

The P/E ratios suggest that

- A** ST is regarded by the market as the riskiest of the three entities.
- B** ST has the highest earnings per share of the three entities.
- C** UV represents the safest investment because its P/E lies approximately midway between the other two.
- D** WX's share price may be relatively lower than that of ST and UV because of an adverse effect such as a profit warning.

(2 marks)

1.7 The asset backing of an investment in shares is calculated by dividing the book value of equity by the number of shares in issue.

Identify TWO reasons why a comparison of this ratio between two or more entities may be invalid.

(2 marks)

(Total for Section A = 20 marks)

End of Section A

Section B starts on page 6

TURN OVER

SECTION B – 30 MARKS

[indicative time for answering this Section is 54 minutes]

ANSWER ALL THREE QUESTIONS

Question Two

The income statements for Home and its wholly owned subsidiary Foreign for the year ended 31 July 2006 are shown below:

	<i>Home</i> \$000	<i>Foreign</i> Crowns 000
Revenue	3,000	650
Cost of sales	<u>(2,400)</u>	<u>(550)</u>
Gross profit	600	100
Distribution costs	(32)	(41)
Administrative expenses	(168)	(87)
Finance costs	<u>(15)</u>	<u>(10)</u>
Profit (Loss) before tax	385	(38)
Income tax	<u>(102)</u>	<u>10</u>
Profit (Loss) for the period	<u>283</u>	<u>(28)</u>

NOTES

1. The presentation currency of the group is the \$ and Foreign's functional currency is the Crown.
2. Home acquired 100% of the ordinary share capital of Foreign on 1 August 2004 for 204,000 Crowns. Foreign's share capital at that date comprised 1,000 ordinary shares of 1 Crown each, and its reserves were 180,000 Crowns. In view of its subsidiary's losses, Home's directors conducted an impairment review of the goodwill at 31 July 2006. They concluded that the goodwill had lost 20% of its value during the year (before taking exchange differences into account). The impairment should be reflected in the consolidated financial statements for the year ended 31 July 2006.
3. On 1 June 2006, Home purchased an item of plant for 32,000 Florins. At the year end, the payable amount had not yet been settled. No exchange gain or loss in respect of this item is reflected in Home's income statement above.
4. Exchange rates are as follows:
On 1 August 2004: 1.7 Crowns = \$1
On 31 July 2006: 2.2 Crowns = \$1
Average rate for year ended 31 July 2006: 2.4 Crowns = \$1

On 1 June 2006: 1.5 Florins = \$1
On 31 July 2006: 1.6 Florins = \$1
5. During the year, Foreign made sales of 50,000 Crowns to Home. None of the items remained in inventory at the year end.

Required:

Prepare the consolidated income statement for the Home group for the year ended 31 July 2006. (Work to the nearest \$100)

(10 marks)

Question Three

In many industries there is a large gap between the market capitalisation of listed entities and the balance sheet value of their net assets. Some commentators have suggested that the gap comprises unrecognised intangible assets in the form of intellectual capital obtained through the employment of human resources, and that these assets should be capitalised.

Required:

Identify the principal arguments for and against the proposal to capitalise intellectual capital.

(10 marks)

Question Four

CBA is a listed entity that runs a defined benefit pension scheme on behalf of its employees. In the financial year ended 30 September 2006, the scheme suffered an actuarial loss of \$7.2 million. The entity's directors are aware that the relevant Accounting Standard, IAS 19 *Employee Benefits*, was amended recently. They have asked you, the financial controller, to write a short briefing paper, setting out an outline of the options for accounting for the actuarial loss in accordance with the amended version of the Standard.

Required:

Prepare the briefing paper explaining the options and identifying, as far as possible from the information given, the potential impact on the financial statements of CBA of the two alternative accounting treatments.

(10 marks)

(Total for Section B = 30 marks)

End of Section B

Section C starts on Page 8

TURN OVER

SECTION C – 50 MARKS

[indicative time for answering this Section is 90 minutes]

ANSWER TWO QUESTIONS OUT OF THREE

Question Five

The balance sheets of three entities, AD, BE and CF at 30 June 2006, the year end of all three entities, are shown below:

	<i>AD</i>		<i>BE</i>		<i>CF</i>	
	\$000	\$000	\$000	\$000	\$000	\$000
ASSETS						
Non-current assets						
Property, plant and equipment	1,900		680		174	
Financial assets						
Investments in equity shares	880		104		-	
Other (see note 3)	<u>980</u>		<u>-</u>		<u>-</u>	
		3,760		784		174
Current assets						
Inventories	223		127		60	
Trade receivables	204		93		72	
Other financial asset (see note 4)	25		-		-	
Cash	<u>72</u>		<u>28</u>		<u>12</u>	
		<u>524</u>		<u>248</u>		<u>144</u>
		<u>4,284</u>		<u>1,032</u>		<u>318</u>
EQUITY AND LIABILITIES						
Equity						
Called up share capital (\$1 shares)	1,000		300		100	
Reserves	<u>2,300</u>		<u>557</u>		<u>122</u>	
		3,300		857		222
Non-current liabilities						
		600		-		-
Current liabilities						
Trade payables	247		113		84	
Income tax	<u>137</u>		<u>62</u>		<u>12</u>	
		<u>384</u>		<u>175</u>		<u>96</u>
		<u>4,284</u>		<u>1,032</u>		<u>318</u>

ADDITIONAL INFORMATION

Note 1 – Investment by AD in BE

AD acquired 80% of the ordinary shares of BE on 1 July 2003 for \$880,000 when BE's reserves were \$350,000. Goodwill on acquisition continues to be unimpaired.

Note 2 – Investment by BE in CF

BE acquired 40% of the ordinary shares of CF on 1 January 2006 for \$104,000. BE appoints one of CF's directors and, since the acquisition, has been able to exert significant influence over CF's activities. CF's reserves at the date of acquisition were \$102,000.

Note 3 – Non-current financial asset

AD's other non-current financial asset is a debenture with a fixed interest rate of 5%. AD invested \$1 million in the debenture at par on its issue date, 1 July 2004. The debenture is redeemable at a premium on 30 June 2008; the applicable effective interest rate over the life of the debenture is 8%. The full annual interest amount was received and recorded by AD in June 2005 and June 2006, and the appropriate finance charge was recognised in the financial year ended 30 June 2005. However, no finance charge has yet been calculated or recognised in respect of the financial year ended 30 June 2006.

Note 4 – Current financial asset

The current financial asset of \$25,000 in AD represents a holding of shares in a major listed company. AD maintains a portfolio of shares held for trading. At 30 June 2006, the only holding in the portfolio was 4,000 shares in DG, a major listed company with 2.4 million ordinary shares in issue. The investment was recognised on its date of purchase, 13 May 2006, at a cost of 625¢ per share. At 30 June 2006, the fair value of the shares had risen to 670¢ per share.

Note 5 – Intra-group trading

BE supplies goods to both AD and CF. On 30 June 2006, CF held inventories at a cost of \$10,000 that had been supplied to it by BE. BE's profit margin on the selling price of these goods is 30%.

On 30 June 2006, AD's inventories included no items supplied by BE. However, BE's receivables on 30 June 2006 included \$5,000 in respect of an intra-group balance relating to the supply of goods to AD. No equivalent balance was included in AD's payables because it had made a payment of \$5,000 on 27 June 2006, which was not received and recorded by BE until after the year end.

Required:

- (a) Explain the accounting treatment in the balance sheet and income statement for the financial assets described in notes 3 and 4 above, as required by IAS 39 *Financial Instruments: Recognition and Measurement*.

(5 marks)

- (b) Prepare the consolidated balance sheet for the AD Group at 30 June 2006.

(20 marks)

(Total for Question Five = 25 marks)

Section C continues on the next page

TURN OVER

Question Six

A friend of yours has recently been left a portfolio of investments by a relative. The portfolio includes 150 shares in SDB, a listed entity that designs, manufactures and supplies houses in kit form for export to developing countries. Having recently received the financial statements of the entity for the financial year ended 31 July 2006, your friend, who has some basic knowledge of accounting, has asked you to clarify certain points for him, and to provide him with a brief report on the position of the business.

The income statement, statement of changes in equity and balance sheet are as follows:

SDB: Consolidated income statement for the year ended 31 July 2006

	2006 \$000	2005 \$000
Revenue	25,200	25,300
Cost of sales	<u>(18,400)</u>	<u>(18,000)</u>
Gross profit	6,800	7,300
Distribution costs	(970)	(1,030)
Administrative expenses	(1,750)	(1,720)
Finance costs	(1,220)	(1,140)
Share of losses of joint venture	<u>(1,670)</u>	<u>-</u>
Profit before tax	1,190	3,410
Income tax expense	<u>(250)</u>	<u>(780)</u>
Profit for the period	<u>940</u>	<u>2,630</u>

Attributable to:

Equity holders of the parent	810	2,230
Minority interest	<u>130</u>	<u>400</u>
	<u>940</u>	<u>2,630</u>

SDB: Consolidated statement of changes in equity for the year ended 31 July 2006

	Share capital \$000	Other reserves \$000	Retained earnings \$000	Minority interest \$000	Total equity \$000
Balance at 1 August 2005	4,000	-	18,600	540	23,140
Profit for the period			810	130	940
Dividends			(2,470)	(330)	(2,800)
Issue of share capital	1,600	2,000			3,600
Balance at 31 July 2006	<u>5,600</u>	<u>2,000</u>	<u>16,940</u>	<u>340</u>	<u>24,880</u>

SDB: Consolidated balance sheet at 31 July 2006

	2006		2005	
	\$000	\$000	\$000	\$000
ASSETS				
Non-current assets:				
Property, plant and equipment	19,900		17,800	
Investment in joint venture	<u>7,500</u>		<u>-</u>	
		27,400		17,800
Current assets:				
Inventories	8,300		6,900	
Trade receivables	4,700		4,100	
Cash	<u>3,100</u>		<u>13,000</u>	
		<u>16,100</u>		<u>24,000</u>
		<u>43,500</u>		<u>41,800</u>

	2006		2005	
	\$000	\$000	\$000	\$000
EQUITY AND LIABILITIES				
Equity attributable to shareholders of the parent:				
Called up share capital (\$1 shares)	5,600		4,000	
Retained earnings	16,940		18,600	
Other reserves	2,000		-	
		24,540		22,600
Minority interest		340		540
Total equity		24,880		23,140
Non-current liabilities:				
Long-term loans		13,600		13,600
Current liabilities:				
Trade payables	4,770		4,280	
Income tax	250		780	
		5,020		5,060
		43,500		41,800

Your friend's queries are as follows:

1. I've looked up IAS 31 *Interests in Joint Ventures*, which mentions proportionate consolidation and equity accounting as possible methods of accounting for joint ventures. I've not previously encountered joint ventures, or proportionate consolidation. Can you explain how IAS 31 affects these financial statements?
2. The long-term loans are described in a note as "repayable in three equal instalments in each of the years 2008-2010". What does this mean, and what are the implications for SDB's position?
3. There is a note to the financial statements about a contingent liability of \$10 million. Apparently, one of the models of house supplied by SDB has a tendency to collapse in adverse weather conditions, and \$10 million is the amount claimed by litigants in a case that is due to be heard within the next 18 months. SDB's directors think it is possible that the entity will have to pay out. This seems a very large amount of money. How likely is it that the entity will have to pay out, and how bad would the effect be?
4. I can see that the business's profitability has suffered during the year, but if anything, I'm more concerned about the fact that the cash balance has fallen by almost \$10 million. I'd very much like to have your opinion on the entity's position.

Required:

Write a report to your friend that:

- (a) Explains the concept of a jointly controlled entity and the permitted approaches to accounting for it, identifying possible reasons for the selection of accounting method by SDB. (9 marks)
- (b) Analyses the financial statements of SDB, focusing as requested upon the entity's position, and including references to the queries about the long-term loans and the contingent liability. (16 marks)

(Total for Question Six = 25 marks)

TURN OVER

Question Seven

AXZ is a rapidly expanding entity that manufactures and distributes hair care and other beauty products. Its directors are currently considering expansion into foreign countries by means of acquisitions of similar entities. Two acquisition possibilities are to be considered at the next board meeting: DCB, an entity operating in Lowland, and GFE which operates in Highland. The target acquisitions are of similar size, and operate within similar economic parameters and the same currency, although their tax regimes differ substantially. Neither entity is listed. Neither Lowland nor Highland requires unlisted entities to comply with IFRS, and consequently both entities comply with local GAAP. Local GAAP in both countries is, in most respects, similar to IFRS but there are some differences that must be taken into account when making comparisons between financial statements produced in the two countries. AXZ is listed, and complies with IFRS.

The directors of both DCB and GFE have co-operated fully in providing detailed information about their businesses. Provided that a reasonable price is offered for the shares, takeover is unlikely to be resisted by either entity. AXZ can afford to fund one acquisition but not both.

The most recent income statements of the three entities are provided below, together with some relevant balance sheet totals.

Income statements for the year ended 30 September 2006

	<i>AXZ</i> \$000	<i>DCB</i> \$000	<i>GFE</i> \$000
Revenue	8,300	1,900	2,200
Cost of sales	(5,600)	(1,300)	(1,400)
Gross profit	<u>2,700</u>	<u>600</u>	<u>800</u>
Distribution costs	(252)	(60)	(65)
Administrative expenses	(882)	(180)	(250)
Finance costs	(105)	(25)	(65)
Profit before tax	<u>1,461</u>	<u>335</u>	<u>420</u>
Income tax expense	(366)	(134)	(105)
Profit for the period	<u>1,095</u>	<u>201</u>	<u>315</u>

Extracts from balance sheets at 30 September 2006

Total equity	4,820	1,350	1,931
Non-current liabilities (borrowings)	1,500	500	650
Non-current assets	9,950	1,680	2,400

Notes

1. It is customary for entities complying with local GAAP in Lowland to adopt the rates of depreciation used by the tax authorities. Tax depreciation is calculated on the straight-line basis in all cases, at a rate of 12.5% each year on all non-current assets. DCB's non-current assets have been held, on average, for three years, and none are fully depreciated. The age profile of non-current assets held by AXZ and GFE is very similar to that of DCB, but both entities charge an average of 10% straight line depreciation each year.

All depreciation in all three entities has been charged to cost of sales.

2. Accounting for financial instruments is similar under Lowland GAAP and IFRS. However, Highland's GAAP takes a less prescriptive approach. GFE has \$100,000 of 5% non-participating shares included in equity. Under IFRS, these shares would be classified as non-current liabilities. The 5% fixed charge on these shares has been reflected in the statement of changes in equity; under IFRS it would be shown as part of finance costs. This charge would not, however, be allowable against income tax in Highland.

3. The directors of AXZ plan to finance the acquisition through a combination of equity and debt that will be similar, proportionately, to the existing capital structure. When assessing possible takeover targets the following key accounting ratios are of especial interest:

Gross profit margin
Profit before tax as a percentage of sales
Return on equity
Return on total capital employed
Non-current asset turnover
Gearing (long-term debt as a percentage of equity)

Their policy is to consider targets for takeover only if the above ratios for the combined group would not be adversely affected to any material extent.

Required:

- (a) Calculate and tabulate for each entity the key ratios listed in note 3. both before **and** after taking the information in notes 1. and 2. above into account.

(15 marks)

- (b) Write a concise report for the directors of AXZ, which analyses the financial statement information and interprets the ratios calculated in your answer to part (a). You should also include in your analysis any additional ratios that are likely to be useful to the directors of AXZ in making their decision.

(10 marks)

(Total for Question Seven = 25 marks)

(Total for Section C = 50 marks)

End of Section C and End of Question Paper

TURN OVER

Maths Tables and Formulae are on pages 15-17

MATHS TABLES AND FORMULAE

Present value table

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

Periods (n)	Interest rates (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	0.701	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
16	0.853	0.728	0.623	0.534	0.458	0.394	0.339	0.292	0.252	0.218
17	0.844	0.714	0.605	0.513	0.436	0.371	0.317	0.270	0.231	0.198
18	0.836	0.700	0.587	0.494	0.416	0.350	0.296	0.250	0.212	0.180
19	0.828	0.686	0.570	0.475	0.396	0.331	0.277	0.232	0.194	0.164
20	0.820	0.673	0.554	0.456	0.377	0.312	0.258	0.215	0.178	0.149

Periods (n)	Interest rates (r)									
	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	0.079	0.065
16	0.188	0.163	0.141	0.123	0.107	0.093	0.081	0.071	0.062	0.054
17	0.170	0.146	0.125	0.108	0.093	0.080	0.069	0.060	0.052	0.045
18	0.153	0.130	0.111	0.095	0.081	0.069	0.059	0.051	0.044	0.038
19	0.138	0.116	0.098	0.083	0.070	0.060	0.051	0.043	0.037	0.031
20	0.124	0.104	0.087	0.073	0.061	0.051	0.043	0.037	0.031	0.026

Cumulative 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 (n)	Interest rates (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	1.970	1.942	1.913	1.886	1.859	1.833	1.808	1.783	1.759	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	10.368	9.787	9.253	8.760	8.306	7.887	7.499	7.139	6.805	6.495
12	11.255	10.575	9.954	9.385	8.863	8.384	7.943	7.536	7.161	6.814
13	12.134	11.348	10.635	9.986	9.394	8.853	8.358	7.904	7.487	7.103
14	13.004	12.106	11.296	10.563	9.899	9.295	8.745	8.244	7.786	7.367
15	13.865	12.849	11.938	11.118	10.380	9.712	9.108	8.559	8.061	7.606
16	14.718	13.578	12.561	11.652	10.838	10.106	9.447	8.851	8.313	7.824
17	15.562	14.292	13.166	12.166	11.274	10.477	9.763	9.122	8.544	8.022
18	16.398	14.992	13.754	12.659	11.690	10.828	10.059	9.372	8.756	8.201
19	17.226	15.679	14.324	13.134	12.085	11.158	10.336	9.604	8.950	8.365
20	18.046	16.351	14.878	13.590	12.462	11.470	10.594	9.818	9.129	8.514

Periods (n)	Interest rates (r)									
	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	4.564	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
16	7.379	6.974	6.604	6.265	5.954	5.668	5.405	5.162	4.938	4.730
17	7.549	7.120	6.729	6.373	6.047	5.749	5.475	5.222	4.990	4.775
18	7.702	7.250	6.840	6.467	6.128	5.818	5.534	5.273	5.033	4.812
19	7.839	7.366	6.938	6.550	6.198	5.877	5.584	5.316	5.070	4.843
20	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 receivable or payable 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:

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

[this page is blank]

[this page is blank]

Financial Management Pillar

Managerial Level

P8 – Financial Analysis

November 2006

Tuesday Afternoon Session