Financial Management Pillar

Managerial Level Paper

P8 – Financial Analysis

23 May 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 is contains eight objective test questions on pages 2 to 4.
Answer ALL THREE questions in Section B on pages 6 to 8.
Answer TWO of the three questions in Section C on pages 10 to 15.
Maths Tables and Formulae are provided on pages 17 to 19. 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

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SECTION A – 20 MARKS

[indicative time for answering this Section is 36 minutes]

ANSWER *ALL* EIGHT SUB-QUESTIONS

Instructions for answering Section A:

The answers to the eight 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 **1.1** and **1.6**, you should show your workings as marks are available for method for these sub-questions.

Question One

1.1 On 30 September 2005, GHI purchased 80% of the ordinary share capital of JKL for $1·45 million. The book value of JKL's net assets at the date of acquisition was $1·35 million. A valuation exercise showed that the fair value of JKL's property, plant and equipment at that date was $100,000 greater than book value, and JKL immediately incorporated this revaluation into its own books. JKL's financial statements at 30 September 2005 contained notes referring to a contingent liability (with a fair value of $200,000).

GHI acquired JKL with the intention of restructuring the latter's production facilities. The estimated costs of the restructuring plan totalled $115,000.

Calculate goodwill on acquisition, and identify any of the above items that should be excluded from the calculation in accordance with IFRS 3 *Business Combinations*.

(3 marks)

1.2 DA controls another entity, CB, owning 60% of its ordinary share capital. At the group's year end, 31 December 2005, CB included $6,000 in its receivables in respect of goods supplied to DA. However, the payables of DA included only $4,000 in respect of amounts due to CB. The difference arose because, on 31 December 2005, DA sent a cheque for $2,000, which was not received by CB until 3 January 2006.

Which ONE of the following sets of consolidation adjustments to current assets and current liabilities is correct?

A Deduct $6,000 from both consolidated receivables and consolidated payables.

B Deduct $3,600 from both consolidated receivables and consolidated payables.

C Deduct $6,000 from consolidated receivables and $4,000 from consolidated payables, and include cash in transit of $2,000.

D Deduct $6,000 from consolidated receivables and $4,000 from consolidated payables, and include inventory in transit of $2,000.

(2 marks)

1.3 PQR holds several investments in subsidiaries. In December 2005, it acquired 100% of the ordinary share capital of STU. PQR intends to exclude STU from consolidation in its group financial statements for the year ended 28 February 2006, on the grounds that it does not intend to retain the investment in the longer term.

Explain, with reference to the relevant International Financial Reporting Standard, the conditions relating to exclusion of this type of investment from consolidation.

(2 marks)

1.4 BLX holds several investments in subsidiaries. One of these, CMY, is located overseas. CMY prepares its financial statements in its local currency, the crown.

Several years ago, when the exchange rate was 5 crowns = 1$, CMY purchased land at a cost of 170,000 crowns. On 1 June 2005, when the exchange rate was 6·5 crowns = $1 the land was revalued at a fair value of 600,000 crowns. The exchange rate at the group's year end, 31 December 2005, was 7 crowns = $1.

In accordance with the requirements of IAS 21 *The Effects of Changes in Foreign Exchange Rates*, at what value in $ should the land be recognised in BLX's group financial statements at 31 December 2005?

A $85,714

B $90,440

C $100,154

D $120,000

(2 marks)

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1.5 During its financial year ended 31 March 2006, CDO acquired 100% of the issued share capital of DEP for €750,000. The purchase was partially financed by a loan for €600,000. The loan is designated by CDO as a hedging instrument. CDO's functional currency is the $.

Explain the accounting treatment required for gains and losses on the investment and its hedging instrument.

(2 marks)

1.6 On 1 January 2006, EFG issued 10,000 5% convertible bonds at their par value of $50 each. The bonds will be redeemed on 1 January 2011. Each bond is convertible at the option of the holder at any time during the five year period. Interest on the bond will be paid annually in arrears.

The prevailing market interest rate for similar debt without conversion options at the date of issue was 6%.

At what value should the equity element of the hybrid financial instrument be recognised in the financial statements of EFG at the date of issue?

(4 marks)

1.7 In the context of IAS 19 *Accounting for Employee Benefits*, explain how an experience gain or loss arises.

(3 marks)

1.8 During its financial year ended 31 January 2006, TSQ issued share options to several of its senior employees. The options vest immediately upon issue.

Which ONE of the following describes the accounting entry that is required to recognise the options?

A DR The statement of changes in equity: CR liabilities

B DR The statement of changes in equity: CR equity

C DR The income statement: CR liabilities

D DR The income statement: CR equity

(2 marks)

(Total for Section A = 20 marks)

End of Section A

Section B starts on page 6

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SECTION B – 30 MARKS

[indicative time for answering this Section is 54 minutes]

ANSWER *ALL* THREE QUESTIONS

Question Two

You are the assistant to the Finance Director of MNO, a medium-sized listed entity that complies with International Accounting Standards. One of MNO's directors has proposed the publication of an Operating and Financial Review (OFR) as part of the annual financial statements. Most of the directors know very little about the OFR, and the Finance Director has asked you to produce a short briefing paper on the topic for their benefit.

Required:

Write the briefing paper, which should discuss the following issues:

- Any relevant regulatory requirements for an OFR;
- The purpose and, in outline, the typical content of an OFR;
- The advantages and drawbacks of publishing an OFR from the entity's point of view.

(Total for Question Two = 10 marks)

Question Three

The income statements of ST and two entities in which it holds investments are shown below for the year ended 31 January 2006:

	ST	*UV*	*WX*
	$000	*$000*	*$000*
Revenue	1,800	1,400	600
Cost of sales	(1,200)	(850)	(450)
Gross profit	600	550	150
Operating expenses	(450)	(375)	(74)
Profit from operations	150	175	76
Finance cost	(16)	(12)	-
Interest income	6	-	-
Profit before tax	140	163	76
Income tax expense	(45)	(53)	(26)
Profit for the period	95	110	50

Note 1 – investments by ST
Several years ago ST acquired 70% of the issued ordinary share capital of UV. On 1 February 2005, ST acquired 50% of the issued share capital of WX, an entity set up under a contractual arrangement as a joint venture between ST and one of its suppliers. The directors of ST have decided to adopt a policy of proportionate consolidation wherever appropriate and permitted by International Financial Reporting Standards.

Note 2 – UV's borrowings
During the financial year ended 31 January 2006, UV paid the full amount of interest due on its 6% debenture loan of $200,000. ST invested $100,000 in the debenture when it was issued three years ago.

Note 3 – Intra-group trading
During the year, WX sold goods to ST for $20,000. Half of the goods remained in ST's inventories at 31 January 2006. WX's gross profit margin on the sale was 20%.

Required:

Prepare the consolidated income statement of the ST group for the year ended 31 January 2006.

(Total for Question Three = 10 marks)

TURN OVER

Question Four

LMN trades in motor vehicles, which are manufactured and supplied by their manufacturer, IJK. Trading between the two entities is subject to a contractual agreement, the principal terms of which are as follows:

- LMN is entitled to hold on its premises at any one time up to 80 vehicles supplied by IJK. LMN is free to specify the ranges and models of vehicle supplied to it. IJK retains legal title to the vehicles until such time as they are sold to a third party by LMN.
- While the vehicles remain on its premises, LMN is required to insure them against loss or damage.
- The price at which vehicles are supplied is determined at the time of delivery; it is not subject to any subsequent alteration.
- When LMN sells a vehicle to a third party, it is required to inform IJK within three working days. IJK submits an invoice to LMN at the originally agreed price; the invoice is payable by LMN within 30 days.
- LMN is entitled to use any of the vehicles supplied to it for demonstration purposes and road testing. However, if more than a specified number of kilometres are driven in a vehicle, LMN is required to pay IJK a rental charge.
- LMN has the right to return any vehicle to IJK at any time without incurring a penalty, except for any rental charge incurred in respect of excess kilometres driven.

Required:

Discuss the economic substance of the contractual arrangement between the two entities in respect of the recognition of inventory and of sales. Refer, where appropriate, to IAS 18 *Revenue.*

(Total for Question Four = 10 marks)

(Total for Section B = 30 marks)

End of Section B

Section C starts on page 10

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SECTION C – 50 MARKS

[indicative time for answering this Section is 90 minutes]

ANSWER *TWO* QUESTIONS OUT OF THREE

Question Five

You advise a private investor who holds a portfolio of investments in smaller listed companies. Recently, she has received the annual report of the BZJ Group for the financial year ended 31 December 2005. In accordance with her usual practice, the investor has read the chairman's statement, but has not looked in detail at the figures. Relevant extracts from the chairman's statement are as follows:

> "Following the replacement of many of the directors, which took place in early March 2005, your new board has worked to expand the group's manufacturing facilities and to replace non-current assets that have reached the end of their useful lives. A new line of storage solutions was designed during the second quarter and was put into production at the beginning of September. Sales efforts have been concentrated on increasing our market share in respect of storage products, and in leading the expansion into Middle Eastern markets.
>
> The growth in the business has been financed by a combination of loan capital and the issue of additional shares. The issue of 300,000 new $1 shares was fully taken up on 1 November 2005, reflecting, we believe, market confidence in the group's new management. Dividends have been reduced in 2005 in order to increase profit retention to fund the further growth planned for 2006. The directors believe that the implementation of their medium- to long-term strategies will result in increased returns to investors within the next two to three years."

The group's principal activity is the manufacture and sale of domestic and office furniture. Approximately 40% of the product range is bought in from manufacturers in other countries.

Extracts from the annual report of the BZJ Group are as follows:

BZJ Group: Consolidated income statement for the year ended 31 December 2005

	2005	*2004*
	$000	*$000*
Revenue	120,366	121,351
Cost of sales	(103,024)	(102,286)
Gross profit	17,342	19,065
Operating expenses	(11,965)	(12,448)
Profit from operations	5,377	6,617
Interest payable	(1,469)	(906)
Profit before tax	3,908	5,711
Income tax expense	(1,125)	(1,594)
Profit for the period	2,783	4,117

Attributable to:		
Equity holders of the parent	2,460	3,676
Minority interest	323	441
	2,783	4,117

BZJ Group: Summarised consolidated statement of changes in equity for the year ended 31 December 2005 (attributable to equity holders of the parent)

	Accum. profit $000	*Share capital $000*	*Share premium $000*	*Reval. reserve $000*	*Total 2005 $000*	*Total 2004 $000*
Opening balance	18,823	2,800	3,000		24,623	21,311
Surplus on revaluation of properties				2,000	2,000	
Profit for the period	2,460				2,460	3,676
Issue of share capital		300	1,200		1,500	-
Dividends paid 31/12	(155)				(155)	(364)
Closing balance	21,128	3,100	4,200	2,000	30,428	24,623

BZJ Group: Consolidated balance sheet at 31 December 2005

	2005 $000	*2005 $000*	*2004 $000*	*2004 $000*
Non-current assets:				
Property, plant and equipment	40,643		21,322	
Goodwill	1,928		1,928	
Trademarks and patents	1,004		1,070	
		43,575		24,320
Current assets:				
Inventories	37,108		27,260	
Trade receivables	14,922		17,521	
Cash	-		170	
		52,030		44,951
		95,605		69,271
Equity:				
Share capital ($1 shares)	3,100		2,800	
Share premium	4,200		3,000	
Revaluation reserve	2,000		-	
Accumulated profits	21,128		18,823	
		30,428		24,623
Minority interest		2,270		1,947
Non-current liabilities				
Interest bearing borrowings		26,700		16,700
Current liabilities:				
Trade and other payables	31,420		24,407	
Income tax	1,125		1,594	
Short-term borrowings	3,662		-	
		36,207		26,001
		95,605		69,271

Required:

(a) Calculate the earnings per share figure for the BZJ Group for the years ended 31 December 2005 and 2004, assuming that there was no change in the number of ordinary shares in issue during 2004.

(3 marks)

(b) Produce a report for the investor that

(i) analyses and interprets the financial statements of the BZJ Group, commenting upon the group's performance and position; and

(17 marks)

(ii) discusses the extent to which the chairman's comments about the potential for improved future performance are supported by the financial statement information for the year ended 31 December 2005.

(5 marks)

(Total for Question Five = 25 marks)

Question Six

The balance sheets of AZ and two entities in which it holds substantial investments at 31 March 2006 are shown below:

	AZ		*BY*		*CX*	
	$000	*$000*	*$000*	*$000*	*$000*	*$000*
Non-current assets:						
Property, plant and equipment	10,750		5,830		3,300	
Investments	7,650		-		-	
		18 400		5,830		3,300
Current assets:						
Inventories	2,030		1,210		1,180	
Trade receivables	2,380		1,300		1,320	
Cash	1,380		50		140	
		5,790		2,560		2,640
		24,190		8,390		5,940
Equity:						
Called up share capital ($1 shares)		8,000		2,300		2,600
Preferred share capital		-		1,000		-
Reserves		10,750		3,370		2,140
		18,750		6,670		4,740
Current liabilities:						
Trade payables	3,770		1,550		1,080	
Income tax	420		170		120	
Suspense account	1,250		-		-	
		5,440		1,720		1,200
		24,190		8,390		5,940

NOTES:

Note 1 – Investments by AZ in BY
Several years ago AZ purchased 80% of BY's ordinary share capital for $3,660,000 when the reserves of BY were $1,950,000. In accordance with the group's policy goodwill was recorded at cost, and there has been no subsequent impairment.

At the same time as the purchase of the ordinary share capital, AZ purchased 40% of BY's preferred share capital at par. The remainder of the preferred shares are held by several private investors.

Note 2 – Investment by AZ in CX
Several years ago AZ purchased 60% of CX's ordinary share capital for $2,730,000 when the reserves of CX were $1,300,000. Goodwill was recorded at cost and there has been no subsequent impairment.

On 1 October 2005, AZ disposed of 520,000 ordinary shares in CX, thus losing control of CX's operations. However, AZ retains a significant influence over the entity's operations and policies. The proceeds of disposal, $1,250,000, were debited to cash and credited to a suspense account. No other accounting entries have been made in respect of the disposal. An investment gains tax of 30% of the profit on disposal will become payable by AZ within the twelve months following the balance sheet date of 31 March 2006, and this liability should be accrued.

CX's reserves at 1 April 2005 were $1,970,000. The entity's profits accrued evenly throughout the year.

Note 3 – Additional information
No fair value adjustments were required in respect of assets or liabilities upon either of the acquisitions of ordinary shares. The called up share capital of both BY and CX has remained the same since the acquisitions were made.

Note 4 – Intra-group trading
During the year ended 31 March 2006, BY started production of a special line of goods for supply to AZ. BY charges a mark-up of 20% on the cost of such goods sold to AZ. At 31 March 2006, AZ's inventories included goods at a cost of $180,000 that had been supplied by BY.

Required:

(a) Calculate the profit or loss on disposal after tax of the investment in CX that will be disclosed in

(i) AZ's own financial statements;

(ii) the AZ group's consolidated financial statements.

(6 marks)

(b) Calculate the consolidated reserves of the AZ group at 31 March 2006.

(5 marks)

(c) Prepare the consolidated balance sheet of the AZ group at 31 March 2006.

(14 marks)

Full workings should be shown.

(Total for Question Six = 25 marks)

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Question Seven

You are the assistant to the Chief Financial Officer (CFO) of ABC, a light engineering business based in Bolandia. ABC, a listed entity, has expanded over the last few years with the successful introduction of innovative new products. In order to further expand its product range and to increase market share, it has taken over several small, unlisted, entities within its own country.

ABC's directors have recently decided to expand its markets by taking over entities based in neighbouring countries. As the first step in the appraisal of available investment opportunities the CFO has asked you to prepare a brief report on the position and performance of three possible takeover targets: entity W based in Winlandia, entity Y based in Yolandia and entity Z based in Zeelandia. These three countries share a common currency with Bolandia, and all three target entities identify their principal activity as being the provision of light engineering products and services. The report is to comprise a one page summary of key data and a brief written report providing an initial assessment of the targets. The format of the summary is to be based upon the one generally used by ABC for its first-stage assessment of takeover targets, but with the addition of

(i) price/earnings ratio information (because all three target entities are listed in their own countries); and

(ii) some relevant country-specific information.

You have produced the one-page summary of key data, given below, together with comparative information for ABC itself, based on its financial statements for the year ended 31 March 2006.

	ABC	*W*	*Y*	*Z*
Country of operation	Bolandia	Winlandia	Yolandia	Zeelandia
Date of most recent annual report	31 March 2006	31 January 2006	30 June 2005	30 June 2005
Financial statements prepared in compliance with:	IFRS	IFRS	Yolandian GAAP	IFRS
Revenue	\$263·4m	\$28·2m	\$24·7m	\$26·3m
Gross profit margin	19·7%	16·8%	17·3%	21·4%
Operating profit margin	9·2%	6·3%	4·7%	8·3%
Return on total capital employed	11·3%	7·1%	6·6%	12·3%
Equity	\$197·8m	\$13·6m	\$14·7m	\$16·7m
Long-term borrowings	\$10·4m	\$6·2m	\$1·3m	\$0·6m
Average interest rate applicable to long-term borrowings by listed entities	7·5%	6%	8%	10%
Income tax rate	30%	28%	31%	38%
Inventories turnover	47 days	68 days	52 days	60 days
Receivables turnover	44 days	42 days	46 days	47 days
Payables turnover	46 days	50 days	59 days	73 days
Current ratio	1·4 : 1	0·7 : 1	1·1 : 1	0·9 : 1
P/E ratio	18·6	12·6	18·3	15·2

ABC has a cash surplus and would seek to purchase outright between 90% and 100% of the share capital of one of the three entities. The directors of ABC do not intend to increase the gearing of the group above its existing level. Upon acquisition they would, as far as possible, retain the acquired entity's management and its existing product range. However, they would also seek to extend market share by introducing ABC's own products.

Required:

Prepare a report to accompany the summary of key data. The report should:

(a) analyse the key data, comparing and contrasting the potential takeover targets with each other and with ABC itself.

(13 marks)

(b) discuss the extent to which the entities can be validly compared with each other, identifying the limitations of inter-firm and international comparisons.

(12 marks)

(Total for Question Seven = 25 marks)

End of Question Paper

Maths Tables and Formulae are on pages 17 to 19

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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	Interest rates (*r*)									
(*n*)	1%	2%	3%	4%	5%	6%	7%	8%	9%	10%
1	0.990	0.980	0.971	0.962	0.952	0.943	0.935	0.926	0.917	0.909
2	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	0705	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	Interest rates (*r*)									
(*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
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	Interest rates (*r*)									
(*n*)	1%	2%	3%	4%	5%	6%	7%	8%	9%	10%
1	0.990	0.980	0.971	0.962	0.952	0.943	0.935	0.926	0.917	0.909
2	1.970	1.942	1.913	1.886	1.859	1.833	1.808	1.783	1.759	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	Interest rates (*r*)									
(*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
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	7.793	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:

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

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Financial Management Pillar

Managerial Level

P8 – Financial Analysis

May 2006

Tuesday Afternoon Session