Financial Management Pillar

Managerial Level Paper

P8 – Financial Analysis

24 May 2005 – 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 the question requirement before attempting the question concerned. 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 comprised of eight sub-questions on pages 2 to 5.
Answer ALL THREE compulsory sub-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 pages 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* 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 ruled off, so that the markers know which sub-question you are answering.

For sub-question **1.8** you should show your workings as marks are available for the method you use to answer this sub-question.

Question One

1.1 The FG group of entities comprises FG and its subsidiaries, HI and JK.

FG acquired 80% of HI's ordinary shares on 31 December 2001, when the reserves of HI stood at $10,000,000, and the reserves of JK stood at $7,600,000.

HI acquired 75% of JK's ordinary shares on 31 December 2000, when the reserves of JK stood at $7,000,000.

At 31 December 2004, HI's reserves stood at $12,200,000, and JK's reserves stood at $10,600,000.

There have been no other acquisitions and disposals in the group, and no impairments of goodwill or intra-group trading adjustments have been recorded.

How much profit has been added to consolidated reserves in the FG group in respect of the investments in HI and JK between acquisition and 31 December 2004?

A $3,560,000

B $3,920,000

C $4,010,000

D $4,460,000

(2 marks)

1.2 On 1 March 2005, PB, a listed entity, acquired 80% of 3,000,000 issued ordinary shares of SV. The consideration for each share acquired comprised a cash payment of $1·20, plus two ordinary shares in PB. The market value of a $1 ordinary share in PB on 1 March 2005 was $1·50, rising to $1·60 by the entity's year end on 31 March 2005. Professional fees paid to PB's external accountants and legal advisers in respect of the acquisition were $400,000.

What is the fair value of consideration in respect of this acquisition, for inclusion in PB's financial statements for the year ended 31 March 2005?

A $10,080,000

B $10,480,000

C $10,560,000

D $10,960,000

(2 marks)

1.3 Where the purchase price of an acquisition is less than the aggregate fair value of the net assets acquired, which ONE of the following accounting treatments of the difference is required by IFRS 3 *Business Combinations*?

A Deduction from goodwill in the consolidated balance sheet.

B Immediate recognition as a gain in the statement of changes in equity.

C Recognition in the income statement over its estimated useful life.

D Immediate recognition as a gain in the income statement.

(2 marks)

1.4 On 1 March 2004, NS acquired 30% of the shares of TP. The investment was accounted for as an associate in NS's consolidated financial statements. Both NS and TP have an accounting year end of 31 October. NS has no other investments in associates.

Net profit for the year in TP's income statement for the year ended 31 October 2004 was $230,000. It declared and paid a dividend of $100,000 on 1 July 2004. No other dividends were paid in the year.

What amount will be shown as an inflow in respect of earnings from the associate in the consolidated cash flow statement of NS for the year ended 31 October 2004?

A $20,000

B $26,000

C $30,000

D $46,000

(2 marks)

TURN OVER

1.5 Which of the following statements, in respect of foreign currency translation, are correct according to IAS 21 *The Effects of Changes in Foreign Exchange Rates*?

(i) The functional currency of an entity is selected by management

(ii) The presentation currency of an entity is selected by management

(iii) The functional currency of an entity is identified by reference to circumstances of the business

(iv) The presentation currency of an entity is identified by reference to circumstances of the business

A (i) and (ii) only

B (iii) and (iv) only

C (i) and (iv) only

D (ii) and (iii) only

(2 marks)

1.6 During the financial year ended 28 February 2005, MN issued the two financial instruments described below. For EACH of the instruments, identify whether it should be classified as debt or equity, **explaining in not more than 40 words each** the reason for your choice. In each case you should refer to the relevant International Accounting Standard or International Financial Reporting Standard.

(i) Redeemable preferred shares with a coupon rate of 8%. The shares are redeemable on 28 February 2009 at a premium of 10%.

(2 marks)

(ii) A grant of share options to senior executives. The options may be exercised from 28 February 2008.

(2 marks)

(Total = 4 marks)

1.7 The following statement contains a missing word:

"Current purchasing power accounting is based upon the concept of _____ capital maintenance."

Which ONE of the following is the missing word?

A Real

B General

C Physical

D Cash-based

(2 marks)

1.8 On 1 February 2004, BJ sold a freehold interest in land to a financing institution for $7·2 million. The contractual terms require that BJ repurchase the freehold on 31 January 2007 for $8·82 million. BJ has the option to repurchase on 31 January 2005 for $7·7 million, or on 31 January 2006 for $8·24 million. Prior to the disposal, the land was recorded at its carrying value of $6 million in BJ's accounting records. The receipt of $7·2 million has been recorded with a corresponding credit to suspense account. No other accounting entries have been made in respect of this transaction.

At 31 January 2005, BJ's directors decide not to take up the option to repurchase.

Briefly explain the substance of this transaction, and prepare journal entries to record it correctly in the accounting records of BJ for the year ended 31 January 2005.

(4 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

On 1 February 2004, CB, a listed entity, had 3,000,000 ordinary shares in issue.
On 1 March 2004, CB made a rights issue of 1 for 4 at $6·50 per share. The issue was completely taken up by the shareholders.

Extracts from CB's financial statements for the year ended 31 January 2005 are presented below:

CB: Extracts from income statement for the year ended 31 January 2005

	$000
Operating profit	1,380
Finance cost	(400)
Profit before tax	980
Income tax expense	(255)
Profit for the period	725

CB: Extracts from summarised statement of changes in equity for the year ended 31 January 2005

	$000
Balance at 1 February 2004	7,860
Issue of share capital	4,875
Surplus on revaluation of properties	900
Profit for the period	725
Equity dividends	(300)
Balance at 31 January 2005	14,060

Just before the rights issue, CB's share price was $7·50, rising to $8·25 immediately afterwards. The share price at close of business on 31 January 2005 was $6·25.

At the beginning of February 2005, the average price earnings (P/E) ratio in CB's business sector was 28·4, and the P/E of its principal competitor was 42·5.

Required:

(a) Calculate the earnings per share for CB for the year ended 31 January 2005, and its P/E ratio at that date.

(6 marks)

(b) Discuss the significance of P/E ratios to investors and CB's P/E ratio relative to those of its competitor and business sector.

(4 marks)

(Total for Question Two = 10 marks)

Question Three

RW holds 80% of the 1,000,000 ordinary shares of its subsidiary, SX. Summarised income statements of both entities for the year ended 31 December 2004 are shown below:

	RW	*SX*
	$000	*$000*
Revenue	6,000	2,500
Operating costs	(4,500)	(1,700)
Profit before tax	1,500	800
Income tax expense	(300)	(250)
Profit for the period	1,200	550

RW purchased 800,000 of SX's $1 shares in 2003 for $3·2 million, when SX's reserves were $2·4 million. Goodwill has been carried at cost since acquisition and there has been no subsequent impairment.

On 1 July 2004, RW disposed of 200,000 shares in SX for $1 million. SX's reserves at 1 January 2004 were $2·9 million, and its profits accrued evenly throughout the year. RW is liable to income tax at 30% on any accounting profits made on the disposal of investments.

The effects of the disposal are not reflected in the income statements shown above.

Required:

Prepare the summarised consolidated income statement for RW for the year ended 31 December 2004.

(Total for Question Three = 10 Marks)

TURN OVER

Question Four

During its financial year ended 31 December 2004, an entity, PX, entered into the transactions described below:

In November 2004, having surplus cash available, PX made an investment in the securities of a listed entity. The directors intend to realise the investment in March or April 2005, in order to fund the planned expansion of PX's principal warehouse.

PX lent one of its customers, DB, $3,000,000 at a variable interest rate pegged to average bank lending rates. The loan is scheduled for repayment in 2009, and PX has provided an undertaking to DB that it will not assign the loan to a third party.

PX added to its portfolio of relatively small investments in the securities of listed entities. PX does not plan to dispose of these investments in the short-term.

Required:

In accordance with IAS 39 *Financial Instruments: Recognition and Measurement*

(a) identify the appropriate classification of these three categories of financial asset and briefly explain the reason for each classification.

(6 marks)

(b) explain how the financial assets should be measured in the financial statements of PX at 31 December 2004.

(4 marks)

(Total for Question Four = 10 marks)

(Total for Section B = 30 marks)

End of Section B

Section C starts on page 10

TURN OVER

SECTION C – 50 MARKS

[indicative time for answering this Section is 90 minutes]

ANSWER *TWO* QUESTIONS OUT OF THREE

Question Five

DM, a listed entity, has just published its financial statements for the year ended 31 December 2004. DM operates a chain of 42 supermarkets in one of the six major provinces of its country of operation. During 2004, there has been speculation in the financial press that the entity was likely to be a takeover target for one of the larger national chains of supermarkets that is currently under-represented in DM's province. A recent newspaper report has suggested that DM's directors are unlikely to resist a takeover. The six board members are all nearing retirement, and all own significant minority shareholdings in the business.

You have been approached by a private shareholder in DM. She is concerned that the directors have a conflict of interests and that the financial statements for 2004 may have been manipulated.

The income statement and summarised statement of changes in equity of DM, with comparatives, for the year ended 31 December 2004, and a balance sheet, with comparatives, at that date are as follows:

DM: Income statement for the year ended 31 December 2004

	2004	*2003*
	$m	*$m*
Revenue, net of sales tax	1,255	1,220
Cost of sales	(1,177)	(1,145)
Gross profit	78	75
Operating expenses	(21)	(29)
Profit from operations	57	46
Finance cost	(10)	(10)
Profit before tax	47	36
Income tax expense	(14)	(13)
Profit for the period	33	23

DM: Summarised statement of changes in equity for the year ended 31 December 2004

	2004	*2003*
	$m	*$m*
Opening balance	276	261
Profit for the period	33	23
Dividends	(8)	(8)
Closing balance	301	276

DM: Balance sheet at 31 December 2004

	2004		*2003*	
	$m	*$m*	*$m*	*$m*
Non-current assets:				
Property, plant and equipment	580		575	
Goodwill	100		100	
		680		675
Current assets:				
Inventories	47		46	
Trade receivables	12		13	
Cash	46		12	
		105		71
		785		746
Equity:				
Share capital	150		150	
Accumulated profits	151		126	
		301		276
Non-current liabilities:				
Interest-bearing borrowings	142		140	
Deferred tax	25		21	
		167		161
Current liabilities:				
Trade and other payables	297		273	
Short-term borrowings	20		36	
		317		309
		785		746

Notes:

1. DM's directors have undertaken a reassessment of the useful lives of non-current tangible assets during the year. In most cases, they estimate that the useful lives have increased and the depreciation charges in 2004 have been adjusted accordingly.

2. Six new stores have been opened during 2004, bringing the total to 42.

3. Four key ratios for the supermarket sector (based on the latest available financial statements of twelve listed entities in the sector) are as follows:

(i) Annual sales per store: $27·6m (ii) Gross profit margin: 5·9%
(iii) Net profit margin: 3·9%
(iv) Non-current asset turnover (including both tangible and intangible non-current assets): 1·93

Required:

(a) Prepare a report, addressed to the investor, analysing the performance and position of DM based on the financial statements and supplementary information provided above. The report should also include comparisons with the key sector ratios, and it should address the investor's concerns about the possible manipulation of the 2004 financial statements.

(20 Marks)

(b) Explain the limitations of the use of sector comparatives in financial analysis.

(5 Marks)

(Total for Question Five = 25 Marks)

TURN OVER

Question Six

AJ is a law stationery business. In 2002, the majority of its board of directors was replaced. The new board decided to adopt a policy of expansion through acquisition. The balance sheets at 31 March 2005 of AJ and of two entities in which it holds substantial investments are shown below:

	AJ		*BK*		*CL*	
	$000	*$000*	*$000*	*$000*	*$000*	*$000*
Non-current assets:						
Property, plant and equipment	12,500		4,700		4,500	
Investments	18,000		-		1,300	
		30,500		4,700		5,800
Current assets:						
Inventories	7,200		8,000		-	
Trade receivables	6,300		4,300		3,100	
Financial assets	-		-		2,000	
Cash	800		-		900	
		14,300		12,300		6,000
		44,800		17,000		11,800
Equity:						
Called up share capital ($1 shares)		10,000		5,000		2,500
Reserves		14,000		1,000		4,300
		24,000		6,000		6,800
Non-current liabilities:						
Loan notes		10,000		3,000		-
Current liabilities:						
Trade payables	8,900		6,700		4,000	
Income tax	1,300		100		600	
Short-term borrowings	600		1,200		400	
		10,800		8,000		5,000
		44,800		17,000		11,800

NOTES TO THE BALANCE SHEETS

Note 1 – Investment by AJ in BK
On 1 April 2002, AJ purchased $2 million loan notes in BK at par.

On 1 April 2003, AJ purchased 4 million of the ordinary shares in BK for $7·5 million in cash, when BK's reserves were $1·5 million.

At the date of acquisition of the shares, BK's property, plant and equipment included land recorded at a cost of $920,000. At the date of acquisition, the fair value of the land was $1,115,000. No other adjustments in respect of fair value were required to BK's assets and liabilities upon acquisition. BK has not recorded the fair value in its own accounting records.

Note 2 – Investment by AJ in CL
On 1 October 2004, AJ acquired 1 million shares in CL, a book distributor, when the reserves of CL were $3·9 million. The purchase consideration was $4·4 million. Since the acquisition, AJ has had the right to appoint one of the five directors of CL. The remaining shares in CL are owned principally by three other investors.

No fair value adjustments were required in respect of CL's assets or liabilities upon acquisition.

Note 3 – Goodwill on consolidation
Since acquiring its investment in BK, AJ has adopted the requirements of IFRS 3 *Business Combinations* in respect of goodwill on consolidation. During March 2005, it conducted an impairment review of goodwill. As a result, the goodwill element of the investment in CL is unaltered, but the value of goodwill on consolidation in respect of BK is now $1·7 million.

Note 4 – Intra-group trading
BK supplies legal books to AJ. On 31 March 2005, AJ's inventories included books purchased at a total cost of $1 million from BK. BK's mark-up on books is 25%.

Required:

(a) Explain, with reasons, how the investments in BK and CL will be treated in the consolidated financial statements of the AJ group.

(5 marks)

(b) Prepare the consolidated balance sheet for the AJ group at 31 March 2005. Full workings should be shown.

(20 marks)

(Total for Question Six = 25 marks)

TURN OVER

Question Seven

FW is a listed entity involved in the business of oil exploration, drilling and refining in three neighbouring countries, Aye, Bee and Cee. The business has been consistently profitable, creating high returns for its international shareholders. In recent years, however, there has been an increase in environmental lobbying in FW's three countries of operation. Two years ago, an environmental group based in Cee started lobbying the government to take action against FW for alleged destruction of valuable wildlife habitats in Cee's protected wetlands and the displacement of the local population. At the time, the directors of FW took legal advice on the basis of which they assessed the risk of liability at less than 50%. A contingent liability of $500 million was noted in the financial statements to cover possible legal costs, compensation to displaced persons and reinstatement of the habitats, as well as fines.

FW is currently preparing its financial statements for the year ended 28 February 2005. Recent advice from the entity's legal advisers has assessed that the risk of a successful action against FW has increased, and must now be regarded as more likely than not to occur. The board of directors has met to discuss the issue. The directors accept that a provision of $500 million is required, but would like to be informed of the effects of the adjustment on certain key ratios that the entity headlines in its annual report. All of the directors are concerned about the potentially adverse effect on the share price, as FW is actively engaged in a takeover bid that would involve a substantial share exchange. In addition, they feel that the public's image of the entity is likely to be damaged. The chief executive makes the following suggestion:

> "Many oil businesses now publish an environmental and social report, and I think it may be time for us to do so. It would give us the opportunity to set the record straight about what we do to reduce pollution, and could help to deflect some of the public attention from us over this law suit. In any case, it would be a good public relations opportunity; we can use it to tell people about our equal opportunities programme. I was reading about something called the Global Reporting Initiative [GRI]. I don't know much about it, but it might give us some help in structuring a report that will get the right message across. We could probably pull something together to go out with this year's annual report".

The draft financial statements for the year ended 28 February 2005 include the following information relevant for the calculation of key ratios. All figures are before taking into account the $500 million provision. The provision will be charged to operating expenses.

	$m
Net assets (before long-term loans) at 1 March 2004	9,016
Net assets (before long-term loans) at 28 February 2005	10,066
Long-term loans at 28 February 2005	4,410
Share capital + reserves at 1 March 2004	4,954
Share capital + reserves at 28 February 2005	5,656
Revenue	20,392
Operating profit	2,080
Profit before tax	1,670
Profit for the period	1,002

The number of ordinary shares in issue throughout the years ended 29 February 2004 and 28 February 2005 were 6,000 million shares of 25¢ each.

FW's key financial ratios for the 2004 financial year (calculated using the financial statements for the year ended 29 February 2004) were:

- Return on equity (using average equity): 24·7%
- Return on net assets (using average net assets): 17·7%
- Gearing (debt as a percentage of equity): 82%
- Operating profit margin: 10·1%
- Earnings per share: 12·2¢ per share

Required:

In your position as assistant to FW's Chief Financial Officer produce a briefing paper that

(a) analyses and interprets the effects of making the environmental provision on FW's key financial ratios. You should take into account the possible effects on the public perception of FW.

(12 marks)

(b) identifies the advantages and disadvantages to FW of adopting the chief executive's proposal to publish an environmental and social report.

(7 marks)

(c) describes the THREE principal sustainability dimensions covered by the GRI's framework of performance indicators.

(6 marks)

(Total for Question Seven = 25 Marks)

End of Question Paper

Maths Tables and Formulae are on pages 17 to 19

TURN OVER

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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 2005

Tuesday Afternoon Session