CIMA

Financial Management Pillar

Managerial Level Paper

P7 – Financial Accounting and Tax Principles

26 May 2005 – Thursday 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 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 20 sub-questions on pages 2 to 8.
Answer ALL SIX compulsory sub-questions in Section B on pages 10 to 13.
Answer ONE of the two questions in Section C on pages 14 to 17.
Maths Tables and Formulae are provided on pages 19 to 21. 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.

P7 – Financial Accounting and Tax Principles

TURN OVER

SECTION A – 50 MARKS

[the indicative time for answering this Section is 90 minutes]

ANSWER *ALL* TWENTY SUB-QUESTIONS

Instructions for answering Section A:

The answers to the twenty 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 **1.8**, **1.9**, **1.12**, **1.14** and **1.16** you should show your workings as marks are available for the method you use to answer these sub-questions.

Question One

1.1 The term GAAP is used to mean

A Generally accepted accounting procedures

B General accounting and audit practice

C Generally agreed accounting practice

D Generally accepted accounting practice

(2 marks)

1.2 The effective incidence of a tax is

A the date the tax is actually paid.

B the person or entity that finally bears the cost of the tax.

C the date the tax assessment is issued.

D the person or entity receiving the tax assessment.

(2 marks)

1.3 IAS 32 *Financial Instruments – Disclosure and Presentation* classifies issued shares as either equity instruments or financial liabilities. An entity has the following categories of funding on its balance sheet:

(i) A preference share that is redeemable for cash at a 10% premium on 30 May 2015.

(ii) An ordinary share which is not redeemable and has no restrictions on receiving dividends.

(iii) A loan note that is redeemable at par in 2020.

(iv) A cumulative preference share that is entitled to receive a dividend of 7% a year.

Applying IAS 32, how would EACH of the above be categorised on the balance sheet?

	As an equity instrument	*As a financial liability*
A	(i) and (ii)	(iii) and (iv)
B	(ii) and (iii)	(i) and (iv)
C	(ii)	(i), (iii) and (iv)
D	(i), (ii) and (iii)	(iv)

(2 marks)

1.4 List FOUR forms of short-term finance generally available to small entities.

(4 marks)

1.5 **In no more than 15 words**, define the meaning of "competent jurisdiction".

(2 marks)

1.6 Which ONE of the following is responsible for governance and fundraising in relation to the development of International Accounting Standards?

A International Accounting Standards Board

B International Financial Reporting Interpretations Committee

C International Accounting Standards Committee Foundation Trustees

D Standards Advisory Council

(2 marks)

TURN OVER

1.7 An entity is preparing a segmental analysis in accordance with IAS 14 *Segment Reporting*. The directors have elected to disclose business segments as the primary reporting format, but are unsure which of the following items need disclosure.

(i) external revenue

(ii) cost of sales

(iii) capital employed

(iv) segment profit

Which TWO of the above require separate disclosure under IAS 14 in respect of segments reported as primary segments?

A (i) and (ii) only

B (i) and (iv) only

C (i) and (iii) only

D (iii) and (iv) only

(2 marks)

1.8 A bond with a coupon rate of 7% is redeemable in 8 years' time for $100. Its current purchase price is $82. What is the percentage yield to maturity?

(4 marks)

1.9 AC made the following payments during the year ended 30 April 2005:

	$000
Operating costs (excluding depreciation)	23
Finance costs	4
Capital repayment of loans	10
Payments for the purchase of new computer equipment for use in AC's business	20

AC's revenue for the period was $45,000 and the corporate income tax rate applicable to AC's profits was 25%. The computer equipment qualifies for tax allowances of 10% per year on a straight line basis.

Calculate AC's tax payable for the year ended 30 April 2005.

(3 marks)

1.10 Financial statements prepared using International Standards and the International Accounting Standards Board's (IASB*) Framework for the Preparation and Presentation of Financial Statements* (Framework) are presumed to apply two of the following four underlying assumptions:

(i) Relevance

(ii) Going concern

(iii) Prudence

(iv) Accruals

Which TWO of the above are underlying assumptions according to the IASB's Framework?

A (i) and (ii) only

B (ii) and (iii) only

C (iii) and (iv) only

D (ii) and (iv) only

(2 marks)

1.11 Which ONE of the following would be treated as a non-adjusting event after the balance sheet date, as required by IAS 10 *Events after the Balance Sheet Date*, in the financial statements of AN for the period ended 31 January 2005? The financial statements were approved for publication on 15 May 2005.

A Notice was received on 31 March 2005 that a major customer of AN had ceased trading and was unlikely to make any further payments.

B Inventory items at 31 January 2005, original cost $30,000, were sold in April 2005 for $20,000.

C During 2004, a customer commenced legal action against AN. At 31 January 2005, legal advisers were of the opinion that AN would lose the case, so AN created a provision of $200,000 for the damages claimed by the customer. On 27 April 2005, the court awarded damages of $250,000 to the customer.

D There was a fire on 2 May 2005 in AN's main warehouse which destroyed 50% of AN's total inventory.

(2 marks)

1.12 AL's customers all pay their accounts at the end of 30 days. To try and improve its cash flow, AL is considering offering all customers a 1·5% discount for payment within 14 days.

Calculate the implied annual (interest) cost to AL of offering the discount, using compound interest methodology and assuming a 365 day year.

(3 marks)

TURN OVER

1.13 List the THREE criteria set out in IAS 37 *Provisions, Contingent Liabilities and Contingent Assets* for the recognition of a provision.

(3 marks)

1.14 AE purchases products from a foreign entity and imports them into a country A. On import, the products are subject to an excise duty of $5 per item and Value Added Tax (VAT) of 15% on cost plus excise duty.

AE purchased 200 items for $30 each and after importing them sold all of the items for $50 each plus VAT at 15%.

How much is due to be paid to the tax authorities for these transactions?

A $450

B $1,450

C $2,050

D $2,500

(3 marks)

1.15 The economic order quantity formula includes the cost of placing an order. However, the Management Accountant is unsure which of the following items should be included in "cost of placing an order":

(i) Administrative costs
(ii) Postage
(iii) Quality control cost
(iv) Unit cost of products
(v) Storekeeper's salary

Which THREE of the above would usually be regarded as part of the cost of placing an order?

A (i), (ii) and (iii) only

B (i), (iv) and (v) only

C (ii), (iii) and (iv) only

D (i), (ii) and (v) only

(2 marks)

1.16 An item of plant and equipment was purchased on 1 April 2001 for $100,000. At the date of acquisition its expected useful economic life was 10 years. Depreciation was provided on a straight line basis, with no residual value.

On 1 April 2003, the asset was revalued to $95,000. On 1 April 2004, the useful life of the asset was reviewed and the remaining useful economic life was reduced to 5 years, a total useful life of 8 years.

Calculate the amounts that would be included in the balance sheet for the asset cost/valuation and provision for accumulated depreciation at 31 March 2005.

(4 marks)

1.17 AP has the following two legal claims outstanding:

- A legal action claiming compensation of $500,000 filed against AP in March 2004.
- A legal action taken by AP against a third party, claiming damages of $200,000 was started in January 2003 and is nearing completion.

In both cases, it is more likely than not that the amount claimed will have to be paid.

How should AP report these legal actions in its financial statements for the year ended 31 March 2005?

	Legal action against AP	*Legal action by AP*
A	Disclose by a note	No disclosure
B	Make a provision	No disclosure
C	Make a provision	Disclose as a note
D	Make a provision	Accrue the income

(2 marks)

1.18 Which ONE of the following powers is a tax authority least likely to have granted to them?

A Power of arrest.

B Power to examine records.

C Power of entry and search.

D Power to give information to other countries' tax authorities.

(2 marks)

TURN OVER

1.19 IAS 16 *Property, Plant and Equipment* provides definitions of terms relevant to non-current assets. Complete the following sentence, **in no more than 10 words**.

"Depreciable amount is…"

(2 marks)

1.20 The OECD model tax convention defines a permanent establishment to include a number of different types of establishments:

(i) A place of management

(ii) A warehouse

(iii) A workshop

(iv) A quarry

(v) A building site that was used for 9 months

Which of the above are included in the OECD's list of permanent establishments?

A (i), (ii) and (iii) only

B (i), (iii) and (iv) only

C (ii), (iii) and (iv) only

D (iii), (iv) and (v) only

(2 marks)

(Total for Section A = 50 marks)

End of Section A

Section B starts on the next page

TURN OVER

SECTION B – 30 MARKS

[the indicative time for answering this Section is 54 minutes]

ANSWER *ALL* SIX SUB-QUESTIONS

Question Two

(a) AB acquired non-current assets on 1 April 2003 costing $250,000. The assets qualified for accelerated first year tax allowance at the rate of 50% for the first year. The second and subsequent years were at a tax depreciation rate of 25% per year on the reducing balance method.

AB depreciates all non-current assets at 20% a year on the straight line basis.

The rate of corporate income tax applying to AB for 2003/04 and 2004/05 was 30%. Assume AB has no other qualifying non-current assets.

Required:

Apply IAS 12 *Income Taxes* and calculate:

(i) the deferred tax balance required at 31 March 2004;
(ii) the deferred tax balance required at 31 March 2005;
(iii) the charge to the income statement for the year ended 31 March 2005.

(Total for requirement (a) = 5 marks)

(b) AD, a manufacturing entity, has the following balances at 30 April 2005:

Extract from financial statements:	*$000*
Trade receivables	216
Trade payables	97
Revenue (all credit sales)	992
Cost of sales	898
Purchases in year	641
Inventories at 30 April 2005:	
Raw materials	111
Work in progress	63
Finished goods	102

Required:

Calculate AD's working capital cycle.

(Total for requirement (b) = 5 marks)

(c)

Required:

List the FIVE elements of financial statements defined in the IASB's *Framework* and explain the meaning of each.

(Total for requirement (c) = 5 marks)

(d) AE has a three year contract which commenced on 1 April 2004. At 31 March 2005, AE had the following balances in its ledger relating to the contract:

	$000	*$000*
Total contract value		60,000
Cost incurred up to 31 March 2005:		
Attributable to work completed	21,000	
Inventory purchased for use in 2005/6	3,000	24,000
Progress payments received		25,000
Other information:		
Expected further costs to completion		19,000

At 31 March 2005, the contract was certified as 50% complete.

Required:

Prepare the income statement and balance sheet extracts showing the balances relating to this contract, as required by IAS 11 *Long Term Contracts*.

(Total for requirement (d) = 5 marks)

Section B continues on the next page

TURN OVER

(e) AM is a trading entity operating in a country where there is no sales tax. Purchases are on credit, with 70% paid in the month following the date of purchase and 30% paid in the month after that.

Sales are partly on credit and partly for cash. Customers who receive credit are given 30 days to pay. On average 60% pay within 30 days, 30% pay between 30 and 60 days and 5% pay between 60 and 90 days. The balance is written off as irrecoverable. Other overheads, including salaries, are paid within the month incurred.

AM plans to purchase new equipment at the end of June 2005, the expected cost of which is $250,000. The equipment will be purchased on 30 days credit, payable at the end of July.

The cash balance on 1 May 2005 is $96,000.

The actual/budgeted balances for the six months to July 2005 were:

All figures $000		*Actual*			*Budgeted*	
	Feb	*Mar*	*Apr*	*May*	*Jun*	*Jul*
Credit sales	100	100	110	110	120	120
Cash sales	30	30	35	35	40	40
Credit purchases	45	50	50	55	55	60
Other overhead expense	40	40	40	50	50	50

Required:

Prepare a monthly cash budget for the period May to July 2005 and assess the likelihood of AM being able to pay for the equipment when it falls due. (Round all figures to the nearest $000)

(Total for requirement (e) = 5 marks)

(f) A five year finance lease commenced on 1 April 2003. The annual payments are $30,000 in arrears. The fair value of the asset at 1 April 2003 was $116,000. Use the sum of digits method for interest allocations and assume that the asset has no residual value at the end of the lease term.

Required:

In accordance with IAS 17 *Operating and Finance Leases*:

(i) calculate the amount of finance cost that would be charged to the income statement for the year ended 31 March 2005;

(ii) prepare balance sheet extracts for the lease at 31 March 2005.

(Total for requirement (f) = 5 marks)

(Total for Section B = 30 marks)

End of Section B

Section C starts on the next page

TURN OVER

SECTION C – 20 MARKS

[the indicative time for answering this Section is 36 minutes]

ANSWER *ONE* QUESTION ONLY

Question Three

AF is a furniture manufacturing entity. The trial balance for AF at 31 March 2005 was as follows:

	$000	*$000*
6% loan notes (redeemable 2010)		1,500
Accumulated profits at 31 March 2004		388
Administrative expenses	1,540	
Available for sale investments at market value 31 March 2004	1,640	
Bank and cash	822	
Cost of sales	3,463	
Distribution costs	1,590	
Dividend paid 1 December 2004	275	
Interest paid on loan notes – half year to 30 September 2004	45	
Inventory at 31 March 2005	1,320	
Investment income received		68
Land and buildings at cost	5,190	
Ordinary shares of $1 each, fully paid		4,500
Plant and equipment at cost	3,400	
Provision for deferred tax		710
Provisions for depreciation at 31 March 2004: Buildings		1,500
Provisions for depreciation at 31 March 2004: Plant and equipment		1,659
Revaluation reserve		330
Sales revenue		8,210
Share premium		1,380
Trade payables		520
Trade receivables	1,480	
	20,765	20,765

Additional information provided:

(i) Available for sale investments are carried in the financial statements at market value. The market value of the available for sale investments at 31 March 2005 was $1,750,000.

(ii) There were no sales or purchases of non-current assets or available for sale investments during the year ended 31 March 2005.

(iii) Income tax due for the year ended 31 March 2005 is estimated at $250,000. There is no balance outstanding in relation to previous years' corporate income tax. The deferred tax provision needs to be increased by $100,000.

(iv) Depreciation is charged on buildings using the straight-line basis at 3% each year. The cost of land included in land and buildings is $2,000,000. Plant and equipment is depreciated using the reducing balance method at 20%. Depreciation is regarded as a cost of sales.

(v) AF entered into a non-cancellable five year operating lease on 1 April 2004 to acquire machinery to manufacture a new range of kitchen units. Under the terms of the lease, AF will receive the first year rent free, then $62,500 is payable for four years commencing in year two of the lease. The machine is estimated to have a useful economic life of 20 years.

(vi) The 6% loan notes are 10 year loans due for repayment March 2010. AF incurred no other finance costs in the year to 31 March 2005.

Required:

Prepare the income statement for AF for the year to 31 March 2005 and a balance sheet at that date, in a form suitable for presentation to the shareholders and in accordance with the requirements of International Financial Reporting Standards.

Notes to the financial statements are NOT required, but all workings must be clearly shown. DO NOT prepare a statement of accounting policies or a statement of changes in equity.

(Total for Question Three = 20 marks)

TURN OVER

Question Four

The financial statements of AG are given below:

Balance sheets as at	*31 March 2005*		*31 March 2004*	
	$000	*$000*	*$000*	*$000*
Non-current assets:				
Plant, property and equipment	4,500		4,800	
Development expenditure	370	4,870	400	5,200
Current assets:				
Inventories	685		575	
Trade receivables	515		420	
Cash and cash equivalents	552	1,752	232	1,227
Total assets		6,622		6,427
Equity and liabilities				
Equity:				
Share capital	2,600		1,900	
Share premium account	750		400	
Revaluation reserve	425		300	
Retained earnings	1,430		1,415	
Total equity		5,205		4,015
Non-current liabilities:				
10% loan notes	0		1,000	
5% loan notes	500		500	
Deferred tax	250		200	
Total non-current liabilities:		750		1,700
Current liabilities:				
Trade payables	480		350	
Income tax	80		190	
Accrued expenses	107		172	
Total current liabilities:		667		712
Total equity and liabilities		6,622		6,427

Income statement for the year ended 31 March 2005

	$000	*$000*
Revenue		7,500
Cost of sales		4,000
Gross profit		3,500
Distribution costs	900	
Administrative expenses	2,300	3,200
Profit from operations		300
Finance costs		45
Profit before tax		255
Income tax expense		140
Profit for the period		115

Additional information:

(i) On 1 April 2004, AG issued 1,400,000 $0·50 ordinary shares at a premium of 50%.

(ii) On 1 May 2004, AG purchased and cancelled all its 10% loan notes at par.

(iii) Non-current tangible assets include properties which were revalued upwards by $125,000 during the year.

(iv) Non-current tangible assets disposed of in the year had a net book value of $75,000; cash received on disposal was $98,000. Any gain or loss on disposal has been included under cost of sales.

(v) Cost of sales includes $80,000 for development expenditure amortised during the year.

(vi) Depreciation charged for the year was $720,000.

(vii) The accrued expenses balance includes interest payable of $87,000 at 31 March 2004 and $12,000 at 31 March 2005.

(viii) The income tax expenses for the year to 31 March 2005 is made up as follows:

	$000
Corporate income tax	90
Deferred tax	50
	140

(ix) Dividends paid during the year were $100,000.

Required:

Prepare a cash flow statement, using the indirect method, for AG for the year ended 31 March 2005, in accordance with IAS 7 *Cash Flow Statements*.

(Total for Question Four = 20 marks)

(Total for Section C = 20 marks)

End of Question Paper

Maths Tables and Formulae are on pages 19 to 21

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

Valuation models

(i) Future value of *S*, of a sum *X*, invested for *n* periods, compounded at *r*% interest: $S = X[1 + r]^n$

(ii) Present value of £1 payable or receivable in *n* years, discounted at *r*% per annum:

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

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

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

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

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

(v) 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:

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

Inventory management

(i) Economic Order Quantity

$$EOQ = \sqrt{\frac{2C_oD}{C_h}}$$

where: C_o = cost of placing an order
C_h = cost of holding one unit in Inventory for one year
D = annual demand

Cash management

(i) Optimal sale of securities, Baumol model:

$$\text{Optimal sale} = \sqrt{\frac{2 \text{ x Annual cash disbursements x Cost per sale of securities}}{\text{interest rate}}}$$

(ii) Spread between upper and lower cash balance limits, Miller-Orr model:

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

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Financial Management Pillar

Managerial Level

P7 – Financial Accounting and Tax Principles

May 2005

Thursday Afternoon Session