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ACCA – Paper F9
Financial Management
September 2015 to June 2016
Interim Assessment

Instructions

- Please complete your personal details above.
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  Please scan this form and your answer script in a single PDF and email it to your Kaplan centre.
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Marking Report

Notice to Markers

1 When commenting about the script performance, please ensure on individual questions and on overall assessment your comments cover areas of examination technique including:

• Time management	• Handwriting	• Presentation and layout	• Use of English
• Points clearly and concisely made	• Relevance of answers to question	• Coverage and depth of answer	• Accuracy of calculations
• Calculations cross-referenced to workings	• All parts of the requirement attempted	• Length of answers equates to marks available	• Read the question carefully

2 For each question, please provide suitable constructive comments

Question Number	General Comments	Exam Technique Comments

ACCA INTERIM ASSESSMENT

Financial Management

September 2015 to June 2016

Paper F9

Time allowed
Reading and planning: 15 minutes;
Writing: 3 hours

This paper is divided into two sections:

SECTION A – ALL TWENTY questions are compulsory and MUST be attempted

SECTION B – ALL FIVE questions are compulsory and MUST be attempted

ALL questions are compulsory and MUST be attempted

Formulae Sheet, Present Value and Annuity Tables are on pages 3, 4 and 5.

Do NOT open this paper until instructed by the supervisor.

During reading and planning time only the question paper may be annotated. You must NOT write in your answer booklet until instructed by the supervisor.

This question paper must not be removed from the examination hall.

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FORMULAE SHEET

Economic order quantity

$$= \sqrt{\frac{2C_oD}{C_H}}$$

Miller-Orr Model

$$\text{Return point} = \text{Lower limit} + \left(\frac{1}{3} \times \text{spread}\right)$$

$$\text{Spread} = 3\left\{\frac{\frac{3}{4} \times \text{Transaction cost} \times \text{Variance of cash flows}}{\text{Interest rate}}\right\}^{\frac{1}{3}}$$

The Capital Asset Pricing Model

$$E(r)_j = R_f + \beta_j (E(r_m) - R_f)$$

The asset beta formula

$$\beta_a = \left(\frac{V_e}{(V_e + V_d(1-T))}\right)\beta_e + \left(\frac{V_d(1-T)}{(V_e + V_d(1-T))}\right)\beta_d$$

The Growth Model

$$P_0 = \frac{Do(1+g)}{(r_e - g)}$$

Gordon's growth approximation

$$g = br_e$$

The weighted average cost of capital

$$WACC = \left(\frac{V_e}{V_e + V_d}\right) k_e + \left(\frac{V_d}{V_e + V_d}\right) k_d(1-T)$$

The Fisher formula

$$(1 + i) = (1 + r)(1 + h)$$

Purchasing power parity and interest rate parity

$$S_1 = S_0 \times \frac{(1+h_c)}{(1+h_b)} \qquad F_0 = S_0 \times \frac{(1+i_c)}{(1+i_b)}$$

PRESENT VALUE TABLE

Present value of 1, i.e. $(1 + r)^{-n}$

Where r = discount rate

n = number of periods until payment

Periods (n)	Discount rate (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

Periods (n)	Discount rate (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	0.074	0.065

ANNUITY TABLE

Present value of an annuity of 1, i.e. $\frac{1-(1+r)^{-n}}{r}$

Where r = discount rate

n = number of periods until payment

Periods (n)	Discount rate (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	8.495
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

Periods (n)	Discount rate (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	4.968	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

SECTION A

ALL TWENTY questions are compulsory and MUST be attempted

Please use the space provided on the inside cover of the Candidate Answer Booklet to indicate your chosen answer to each multiple choice question.

Each question is worth two marks.

1 Which of the following is not an advantage of the IRR?

A It considers the whole life of the project

B It uses cash flows not profits

C It is a measure of absolute return

D It considers the time value of money

2 The aim of a company's investment policy should be to:

A Maximise future profits

B Maximise shareholder wealth

C Maximise the total value of the company

D Maximise future cash flows

3 A machine that was bought in January 20X4 for $44,000 and has been depreciated by $8,000 per year, is expected to be sold in December 20X6 for $17,600.

What is the net cash inflow (or outflow) that will appear in the cash budget for December 20X6?

A $9,000 inflow

B $15,200 inflow

C $17,600 inflow

D $17,600 outflow

4 There are a number of motives that influence how much a business wishes to hold in cash.

When a company holds cash in order to make the payments that are necessary to keep the business going, such as wages, taxes and payments to suppliers, the motive behind this is:

A The speculative motive

B The transactions motive

C The finance motive

D The precautionary motive

5 A company has a number of projects available to it but has a limit of $20,000 on its capital investment funds. Each project has an initial outlay followed by a constant annual cash inflow in perpetuity, commencing in one year's time. The projects are as follows.

	Initial outlay	*Inflow per year*
	$	$
Project E	6,000	900
Project F	8,000	1,000
Project G	10,000	3,500
Project H	12,000	3,600
Project I	20,000	4,600

The company's cost of capital is 10% per year and all projects are independent and indivisible.

What is the maximum net present value that can be generated?

A $26,000

B $27,000

C $28,000

D $45,000

6 The payback period is the number of years that it takes a business to recover its original investment from net returns, calculated

A Before both depreciation and taxation

B Before depreciation but after taxation

C After depreciation but before taxation

D After both depreciation and taxation

7 An asset costing $24,000 is expected to last for three years, after which it can be sold for $16,000. The corporation tax rate is 30%, tax-allowable depreciation of 25% is available, and the cost of capital is 10%. Tax is payable at the end of each financial year.

Capital expenditure occurs on the last day of a financial year, and the capital allowances are claimed as early as possible.

What is the cash flow in respect of capital allowances that will be used at time 2 of the net present value calculation?

A $1,013

B $896

C $1,350

D $3,375

8 Which of the following is an example of a financial objective that a company might choose to pursue?

A Achieving returns of 15% on new manufacturing equipment

B Improving brand awareness within Europe

C Dealing honestly and fairly with customers on all occasions

D Producing environmentally friendly products

9 A company has a 'money' cost of capital of 19.89% per annum. The 'real' cost of capital is 13% per annum.

What is the inflation rate?

A 5%

B 6.9%

C 6.1%

D 3.5%

10 If an increase in inventory levels is funded by an increase in the bank overdraft, what will be the effect of the quick (liquidity) ratio?

A Increase

B Decrease

C Remain the same

D Increase, decrease or remain the same depending on the initial size of the quick ratio

11 For a certain project, the net present value at a discount rate of 15% is $3,670, and at a rate of 18% the net present value is negative at ($1,390).

What is the internal rate of return of the project?

A 15.7%

B 16.5%

C 16.6%

D 17.2%

12 A company has identified two mutually-exclusive projects which have an equivalent effect on the risk profile of the company.

	Project 1	*Project 2*
Discounted payback period	2.6 years	3.0 years
Net present value	$17,000	$15,000
Internal rate of return	16%	20%
Average accounting rate of return	17%	19%

Cost of capital is 15%.

Assuming that the directors wish to maximise shareholder wealth and that no shortage of capital is expected, which project should the company choose and why?

A Project 1 because it has the shorter payback period

B Project 1 because it has the higher net present value

C Project 2 because it has the higher internal rate of return

D Project 2 because it has the higher accounting rate of return

13 What is the payback period of the following investment?

Year 0:	$325,000 spent on a new machine
Years 1 to 6:	$50,000 cash inflow per annum
Years 7 to 10:	$25,000 cash inflow per annum
Year 11:	Machine sold for $62,857

A 7 years

B 6 years

C 6.25 years

D 7.25 years

14 A company is to spend $60,000 on a machine that will have an estimated life of ten years and no residual value. The capital asset is to be depreciated by 10% of its cost each year. Estimated operating cash flows are

Year	$
1	(2,000)
2	13,000
3	20,000
4-6	25,000 each year
7-10	30,000 each year

What is the average accounting rate of return (ARR), calculated as average annual profits divided by the average investment?

A 75%

B 55%

C 38%

D 28%

15 Which of the following statements is true?

A The Expected Value technique takes into account the investor's attitude to risk and considers the fact that some investors are more likely to take risks than others.

B Using mathematical models, a simulation exercise produces a distribution of the possible outcomes from a project. The probability of different outcomes can then be calculated.

C Sensitivity analysis assesses the likelihood of a variable changing

D The lower the sensitivity margin, the less sensitive the decision to the particular parameter being considered.

16 A firm has to choose between two mutually-exclusive projects, the outcomes of which depend on the weather. The following estimates have been made:

Weather	*Sunshine*	*Rain*
Probability	0.7	0.3
	NPV ($000)	NPV (4000)
Project 1	100	1,400
Project 2	0	600
Project 3	180	200
Project 4	50	600

Which project should be selected on the basis of expected market values?

A Project 1

B Project 2

C Project 3

D Project 4

17 Consider the truthfulness of the following statements.

1 The optimum replacement period (cycle) will be the period that has the lowest equivalent annual cost, although in practice other factors may influence the final decision.

2 The replacement analysis model assumes that the firm replaces like with like each time it needs to replace an existing asset.

	Statement 1	*Statement 2*
A	True	True
B	True	False
C	False	True
D	False	False

18 The concept of 'value for money' in a not for profit organisation can be defined as 'achieving the desired level and quality of service at the most economical cost'. Performance measures have been developed to permit evaluation of value for money in public sector organisations.

Which of the following is not a measure fundamental to the understanding of value for money?

A Economy

B Evolution

C Efficiency

D Effectiveness

19 The director/shareholder conflict has been addressed by the requirements of a number of corporate governance codes.

Which of the following statements is not true?

A At least sixty percent of the members of the board, excluding the chairman, should be independent non-executive directors

B All directors should submit themselves for re-election at least every three years

C There should be clear disclosure of directors' emoluments

D Non-executive directors should not hold share option in their company

20 What is the present value of a perpetuity of $21,000 starting immediately? Interest rates are 10%.

A $198,000

B $210,000

C $231,000

D $239,000

SECTION B – ALL FIVE QUESTIONS are compulsory and MUST be attempted

1 AGD Co is a profitable company which is considering the purchase of a machine costing $320,000. If purchased, AGD Co would incur annual maintenance costs of $25,000. The machine would be used for three years and at the end of this period would be sold for $50,000. Alternatively, the machine could be obtained under an operating lease for an annual lease rental of $120,000 per year, payable in advance.

AGD Co can claim tax-allowable depreciation on a 25% reducing balance basis. The company pays tax on profits at an annual rate of 30% and all tax liabilities are paid one year in arrears. AGD Co has an accounting year that ends on 31 December. If the machine is purchased, payment will be made in January of the first year of operation. If leased, annual lease rentals will be paid in January of each year of operation.

Required:

(a) Using an after-tax borrowing rate of 7%, evaluate whether AGD Co should purchase or lease the new machine. (13 marks)

(b) The after-tax borrowing rate of 7% was used in the evaluation because a bank had offered to lend AGD Co $320,000 for a period of five years at a before-tax rate of 10% per year with interest payable every year.

Explain why the after-tax cost of borrowing is the correct discount rate to use within the lease v buy decision (2 marks)

(Total: 15 marks)

2 (a) Managers and owners of business may not have the same objectives. Explain this statement, illustrating your answer with examples of possible conflicts of interest.
(5 marks)

(b) Discuss the argument that maximisation of shareholder wealth should be the only objective of a company. **(5 marks)**

(Total: 10 marks)

3 Donac Co is a small manufacturing company. Summarised accounts for the last two years are presented below:

Statements of financial position as at 31 March

		20X0		*20X1*
	$000	$000	$000	$000
Non-current assets		820		1,000
Current assets				
Inventory	340		420	
Receivables	360		570	
Cash	10			
		710		990
Total assets		1,530		1,990
Equity & liabilities				
Ordinary shares (25c)	400		400	
Retained earnings	450		530	
Total equity		850		930
Non-current liabilities		200		200
Current liabilities				
Overdraft	140		250	
Trade payables	280		510	
Other payables	60		100	
Total current liabilities		480		860
		1,530		1,990

Income statements for the years ending 31 March

	20X0	*20X1*
	$000	$000
Revenue	1,800	2,900
Gross profit	210	260
Profit before tax	120	160
Income tax expense	30	40
Profit for the period	90	120
Dividends	40	40
Retained profit for the period	50	80

Inflation during the last year was 10%.

Required:

(a) Explain what is meant by overtrading, and discuss how it might be recognised in a company. (5 marks)

(b) One of Donac's managers has suggested that the company would be more efficient if it reduced its operating cycle to the minimum possible period of time.

(i) Explain what is meant by the operating cycle of a company and calculate it for 20X1. (6 marks)

(ii) Discuss how a company could try to reduce the operating cycle and whether it should always be reduced to the minimum possible period. (4 marks)

(Total: 15 marks)

4 Nutcracker, has just developed a new product called WN1 and is now considering whether to put it into production.

The following information is available:

Research and development costs already incurred	$100,000
Initial investment in machinery	$4 million
Selling price (year 1 prices)	$90 per unit
Variable production costs (year 1 prices)	$70 per unit
Incremental fixed production costs (current price terms)	$1.2 million per year
Expected demand	80,000 units per year

The machinery will have an expected life of four years, after which it is not expected to realise any scrap value. The incremental fixed production overheads noted above include straight line depreciation on the machinery.

The consumer price index is expected to be at 5% per annum for the next four years and the selling price of each WN1 is expected to increase at the same rate. Annual inflation rates for production costs are expected to be as follows:

	%
Variable costs	4
Fixed costs	5

This investment will also require an investment in working capital of $500,000 payable at the start of the project. This is not expected to change during the life of the investment.

Unless otherwise specified, all costs and revenues should be assumed to arise at the end of each year. The company's cost of capital in money terms is expected to be 15%. Ignore taxation.

Required:

(a) Calculate the following for the proposed investment.

(i) Net present value (6 marks)

(ii) Internal rate of return (2 marks)

(b) Comment briefly on your findings in part (a) above and advise whether the investment proposal in financially acceptable. (2 marks)

(Total: 10 marks)

5 LVM Co sells a single product on a wholesale basis and has annual revenue of $4,000,000, all of which is on credit. Each product sells for $50 and costs LVM $40 to buy from its supplier. Demand for the product is not expected to change.

LVM have traditionally ordered 10% of annual demand per order. The ordering cost is expected to be $300 per order, while the holding cost is expected to be $3.00 per unit per year.

The company employs four people in its sales ledger and credit control department at an annual salary of $12,000 each. All sales are on 40 days' credit with no discount for early payment. Bad debts represent 3% of revenue and LVM Co pays annual interest of 9% on its overdraft. Extracts from the most recent accounts of the company offer the following financial information:

LVM Co: Statement of financial position as at 31 December 20X1

	$000	$000
Non-current assets		4,500
Current assets		
Inventory	300	
Receivables	550	
Cash	120	
		970
Total assets		5,470
Equity and liabilities		
Ordinary shares	500	
Reserves	4,040	
Total equity		4,540
Non-current liabilities		
12% loan notes due 20X8		40
Current liabilities		
Trade payables	230	
Bank overdraft	660	
		890
Total equity and liabilities		5,470

LVM is considering making the following changes in order to improve its working capital management:

Inventory management

It has been suggested that the order size should be determined using the economic order quantity model (EOQ)

Required:

(a) Calculate the cost of the current ordering policy and the change in the costs of inventory management that will arise if the economic order quantity is used to determine the optimum order size. (5 marks)

(b) Outline the advantages to a company of taking steps to improve its working capital management, giving examples of steps that might be taken by LVM Co. (5 marks)

(Total: 10 marks)