Pearson LCCI	
Level 3 Certificate in Cost and Management Accounting Examination Paper	
Sample assessment material for first teaching January 2015 Time: 3 hours	
You do not need any other materials.	Total Marks 100

Instructions

- Use **black** ink or ball-point pen.
- **Fill in the boxes** at the top of this page with your name, centre number and candidate number.
- Answer **all** questions.
- Answer the questions in the spaces provided
  - *there may be more space than you need.*
- Answers should be given to an appropriate degree of accuracy.

Information

- The total mark for this paper is 100.
- The marks for **each** question are shown in brackets
  - *use this as a guide as to how much time to spend on each question.*
- Calculators may be used.

Advice

- Read each question carefully before you start to answer it.
- Try to answer every question.
- You are advised to show your workings.
- Check your answers if you have time at the end.

Answer ALL questions. Write your answers in the spaces provided.

1 Sole Products, a private company, manufactures a single product and uses a standard absorption costing system. The production department budgets for the last period included the following:

Production output	7 500 units
Direct materials	5 kg at £6 per kg
Direct labour	4.5 hours at £9 per hour
Fixed production overheads	£4 per direct labour hour

The actual results for the period were as follows:

Production output	7 950 units
Direct materials purchased and used	41 250 kg costing £239 250
Direct labour	34 950 hours at a cost of £325 035
Fixed production overheads	£130 500

(a)   (i) State the meaning of **standard cost**.

(1)

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    (ii) Identify **one** reason for establishing a standard cost

(1)

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(b) Calculate the standard cost for the period.

(2)

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(c) Calculate the following variances for the period:

    (i) direct material price

(2)

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    (ii) direct material usage

(2)

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    (iii) direct labour rate

(2)

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(iv) direct labour efficiency

(2)

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(v) fixed overhead expenditure

(2)

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(vi) fixed overhead volume.

(2)

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(Total for Question 1 = 16 marks)

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2 Twist & Turn, a manufacturing company, has four departments (three production and one stores).

Production-related overheads for the next year are expected to be as follows:

	£
Foreman's salary	24 000
Storekeeper's salary	15 300
Rent and rates	19 600
Heating and lighting	5 600
Depreciation of machinery	9 000
Machinery insurance	4 500
Total	**78 000**

The following information is also available:

	Departments				
	Machining	Assembly	Paint	Stores	**Total**
Floor area (sq m)	400	500	200	300	**1 400**
Number of staff	6	2	1	1	**10**
Value of machinery (£)	75 000	5 000	10 000	-	**90 000**

The foreman oversees the three production departments and the store.

The storekeeper's time is divided equally between the machining and the paint departments. Their salary is allocated to the stores department.

Each of the production staff is expected to work 40 hours per week for 48 weeks during the next year.

(a) Complete the Overhead Distribution table for Twist & Turn using appropriate
    bases of apportionment.

(13)

Overhead Distribution						
Expense	Basis	Total	Departments			
			Machining	Assembly	Paint	Stores
Foreman's salary						
Storekeeper's salary						
Rent and rates						
Heat and lighting						
Depreciation						
Machine insurance						
Total						

Use this space for any workings.

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(b) Complete the Revised Overhead Distribution table for Twist & Turn.
   Reapportion the stores department's overheads to the production departments
   using an appropriate basis.

(3)

Revised Overhead Distribution						
Expense	Basis	Total	Departments			
			Machining	Assembly	Paint	Stores
Total b/d						
Reapportion stores						
Revised total						

(c) Calculate an overhead absorption rate, based on the production labour hours,
   for the:

   (i) machining department

(2)

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   (ii) assembly department.

(2)

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(d) Identify **one** overhead absorption method, other than production labour hours, for the:

(i) machining department

(1)

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(ii) assembly department.

(1)

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(e) State what is meant by:

(i) allocation of fixed overheads

(1)

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(ii) apportionment of fixed overheads

(1)

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(iii) absorption of fixed overheads.

(1)

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(Total for Question 2 = 25 marks)

3   Makit, a family-owned business, manufactures and sells its single product at
    £16 per unit.

    The company, which currently has a monthly production capacity of 19 000
    units, has orders for, and plans to sell, 18 000 units in the next month.

    The following information is available:

        Monthly costs for 16 000 units are estimated at £136 000

        Monthly costs for 18 000 units are estimated at £148 000

        The company only manufactures to sales orders received and keeps no
        inventory.

(a) Calculate for next month, showing your workings, the estimated:

    (i) variable cost per unit

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    (ii) contribution sales ratio

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    (iii) break-even revenue

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    (iv) net profit for the planned sales of 18 000 units.

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A mail-order company has approached Makit with the following two order options:

1.   1 000 units at a price of £15 each

             or

2.   2 000 units at a price of £14 each.

This order would be in addition to the sales orders already received by Makit and must be completed during next month's production.

Makit can increase its monthly manufacturing capacity to 22 000 units by hiring additional equipment at a cost of £10 000 per month. No changes in variable costs are expected.

(b) Explain, showing supporting calculations for each option, which order option should be accepted.

(6)

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(c) State **two** assumptions made in cost-volume-profit (CVP) analysis.

(2)

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(Total for Question 3 = 16 marks)

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PLEASE TURN OVER FOR QUESTION 4

4 Blue Stock Partners uses two raw materials, A and B.

The following information is provided about the raw materials:

Material	Order Quantity	Purchase Price	Monthly Usage	Safety (minimum) Inventory
A	6 000 litres	£9 per litre	3 000 litres	1 000 litres
B	2 000 kg	£25 per kg	4 500 kg	2 000 kg

Inventory holding costs are 25% of the average inventory holding per annum.

Ordering costs are £400 per order.

The supplier of material B has offered a discount off the purchase price if the order quantity is increased.

The details are as follows:

Order quantity	Discount
4 500 kg	0.5%

(a) State **two** examples for each of the following:

(i) ordering costs

(2)

1 ....

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2 ....

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(ii) inventory holding costs.

(2)

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(b) Calculate the annual ordering cost for material A.

(2)

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(c) Calculate the inventory holding cost for material A.

(4)

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(d) Advise Blue Stock Partners of the order quantity of material B that would minimise the annual cost. You must show your workings.

(9)

(Total for Question 4 = 19 marks)

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PLEASE TURN OVER FOR QUESTION 5

5 Bookend, a publication company, is considering replacing one of its capital equipment machines and has a choice of the following methods of acquisition:

   1. Purchase the equipment for £10 000 cash

   2. Lease the equipment at a cost of £2 500 each year for five years. Payment is due at the end of each year.

The following information is available:

- Useful life of equipment   5 years

- Residual value, if purchased for cash   £1 000

Discounted cash flow factors for a capital rate of return of 10% are as follows:

Year 1	0.909
Year 2	0.826
Year 3	0.751
Year 4	0.683
Year 5	0.621

(a) State the **two** traditional techniques of investment appraisal.

(2)

1 ....

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2 ....

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(b) State **two** ways in which the discounted cash flow method overcomes the limitations of traditional techniques of investment appraisal.

(2)

1 ....

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2 ....

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(c) Calculate the Net Present Value (NPV) for the **two** methods of acquisition. You must show your workings.

(8)

(d) Evaluate the suitability of the cash purchase method of acquisition for Bookend.

(4)

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It is expected that the new machine would produce a net cash flow income of £3 000 per year over its five-year life.

Bookend requires a 10% capital rate of return.

(e) Using appropriate calculations, explain why the investment is financially worthwhile.

(8)

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(Total for Question 5 = 24 marks)

TOTAL FOR PAPER = 100 MARKS

Mark Scheme

Sample Assessment Materials

Pearson LCCI
Level 3 Certificate in
Cost and Management Accounting
(ASE20098)

LCCI Qualifications

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General Marking Guidance

- All candidates must receive the same treatment. Examiners must mark the first candidate in exactly the same way as they mark the last.

- Mark schemes should be applied positively. Candidates must be rewarded for what they have shown they can do rather than penalised for omissions.

- Examiners should mark according to the mark scheme not according to their perception of where the grade boundaries may lie.

- There is no ceiling on achievement. All marks on the mark scheme should be used appropriately.

- All the marks on the mark scheme are designed to be awarded. Examiners should always award full marks if deserved, i.e. if the answer matches the mark scheme. Examiners should also be prepared to award zero marks if the candidate's response is not worthy of credit according to the mark scheme.

- Where some judgement is required, mark schemes will provide the principles by which marks will be awarded and exemplification may be limited.

- When examiners are in doubt regarding the application of the mark scheme to a candidate's response, the team leader must be consulted.

- Crossed out work should be marked UNLESS the candidate has replaced it with an alternative response.

- Where marks are awarded for own figure answers, these marks can only be awarded if evidence of how the candidate arrived at their values has been provided (their workings).

- If candidate's fail to provide their workings when instructed in the paper, it may not be possible to achieve all marks associated with the question, even if the final answer is correct.

- For calculation questions, full marks can be awarded where correct answer is seen with no workings shown, unless question states that candidate must provide workings.

Abbreviations

M1   Method Mark

This is used to reward candidates where there is evidence of the candidate having adopted the correct method for a calculation, but where the accuracy of the answer is not necessarily being awarded a mark.

A1   Accuracy Mark

This is used to reward candidates who have attained the answer to a specific calculation representing a method in the question. If stated in the mark scheme, the own figure rule can be used with the accuracy mark.

of   Own Figure rule

Accuracy marks can be awarded where the candidates' answer does not match the mark scheme, though is accurate based on their valid method.

cao   Correct Answer Only rule

Accuracy marks will only be awarded if the candidates' answer is correct, and in line with the mark scheme.

oe   Or Equivalent rule

This rule is used when the value of an answer may be presented in a variety of ways, such as fractions (simplified/non-simplified/mixed), decimals, percentages. The candidates' answer must be equivalent in value to the mark scheme answer.

awrt   'Anything Which Rounds To' rule

This rule is used when the candidate supplies a figure which rounds to the value determined by the mark scheme.

Question	Answer (AO1) 1	Mark
1(a)(i)	**Award 1 mark for mention of products/components/services (mention of just period not marked).** The planned unit cost of the products / components / services (1) produced in a period.	**(1)**

Question	Answer (AO1) 1	Mark
1(a)(ii)	**Award 1 mark for one reason, e.g.** • Control: the standard cost can be compared to the actual and any differences investigated. • Variances: standard costs are essential for calculating and analysing variances. • To value inventories. • Prepare a selling price: standard cost used in cost plus pricing.	**(1)**

Question	Answer (AO2) 2	Mark
1(b)	**Award 1 mark for standard cost per unit (of).** **Award 1 mark for standard cost for the period (of).** Unit cost Direct material (5 x £6) = £30.00 Direct labour (4.5 x £9) = £40.50 Fixed overheads (4.5 x £4) = £18.00 Standard cost per unit = £88.50 (1of) Standard cost for the period = 7 950 x £88.50 = £703 575 (1of)	**(2)**

Question	Answer (AO2) 2	Mark
1(c)(i)	**Award 1 method mark and 1 correct answer mark.** **Variances must state A Adverse or F Favourable.** Direct material price Price Variance = 239 250 – (£6 x 41 250) (1) = £8 250 F (1of)	**(2)**

Question	Answer (AO2) 2	Mark
1(c)(ii)	**Award 1 method mark and 1 correct answer mark.** **Variances must state A Adverse or F Favourable.** Direct material usage Variance = (£6 x 41 250) – (7 950 x £6 x 5) (1) = £9 000 A (1of)	**(2)**

Question	Answer (AO2) 2	Mark
1(c)(iii)	**Award 1 method mark and 1 correct answer mark.** **Variances must state A Adverse or F Favourable.** Direct labour rate Rate Variance = 325 035 – (34 950 x £9) (1) = £10 485 A (1of)	**(2)**

Question	Answer (AO2) 2	Mark
1(c)(iv)	**Award 1 method mark and 1 correct answer mark.** **Variances must state A Adverse or F Favourable.** Direct labour efficiency Efficiency Variance = (34 950 x £9) – (7 950 x £9 x 4.5) (1) = £7 425 F (1of)	**(2)**

Question	Answer (AO2) 2	Mark
1(c)(v)	**Award 1 method mark and 1 correct answer mark.** **Variances must state A Adverse or F Favourable.** Fixed overhead expenditure Expenditure Variance = £130 500 – (7 500 x £4 x 4.5) (1) = £4 500 F (1of)	**(2)**

Question	Answer (AO2) 2	Mark
1(c)(vi)	**Award 1 method mark and 1 correct answer mark.** **Variances must state A Adverse or F Favourable.** Fixed overhead volume Volume Variance = (7 500 – 7 950) x £4 x 4.5 (1) = £8 100 F (1of)	**(2)**

Question	Answer (AO2) 7, (AO3) 6	Mark
2(a)	Award 1 mark for each basis (AO3 6). Award 1 mark for all totals providing all 6 expenses are included (AO2 6of). Award 1 mark for all totals correct (AO2 1of).	(13)

Overhead Distribution Table							
Expense	Basis	Total	Departments				
			Machining	Assembly	Paint	Stores	
Foreman's salary	Number of staff (1)	24 000	14 400	4 800	2 400	2 400	(1)
Storekeeper's salary	Allocate (1)	15 300				15 300	(1)
Rent and rates	Floor area (1)	19 600	5 600	7 000	2 800	4 200	(1)
Heat and lighting	Floor area (1)	5 600	1 600	2 000	800	1 200	(1)
Depreciation	Machine value (1)	9 000	7 500	500	1 000	-	(1)
Machine insurance	Machine value (1)	4 500	3 750	250	500	-	(1)
	Total	78 000	32 850	14 550	7 500	23 100	(1of)

Question	Answer (AO2) 2, (AO3) 1	Mark
2(b)	Award 1 mark for correct basis. Award 1 mark for reapportionment row. Award 1 mark for all revised totals correct (of).	(3)

Revised Overhead Distribution Table						
Expense	Basis	Total	Departments			
			Machining	Assembly	Paint	Stores
	Total b/d	78 000	32 850	14 550	7 500	23 100
Reapportion stores	Time spent	0	11 550		11 550	(23 100)
	Revised total	78 000	44 400	14 550	19 050	0

Question	Answer (AO2) 2	Mark
2(c)(i)	Award maximum 2 (of) marks for machining department. Machining department Rate = £44 400 ÷ (40 x 48 x 6) (1of) = £3.85 per labour hour (1of)	(2)

Question	Answer (AO2) 2	Mark
2(c)(ii)	**Award maximum 2 (of) marks for assembly department.** Assembly department Rate = £14 550 ÷ (40 x 48 x 2) (1of) = £3.79 per labour hour (1of)	**(2)**

Question	Answer (AO1) 1	Mark
2(d)(i)	**Award 1 mark for one method, e.g.** Machine department – per machine hour (1)	**(1)**

Question	Answer (AO1) 1	Mark
2(d)(ii)	**Award 1 mark for one method, e.g.** Assembly department – per product assembled (1)	**(1)**

Question	Answer (AO3) 1	Mark
2(e)(i)	**Award 1 mark for statement, e.g.** Allocation is the charging of a whole item of cost to one cost centre.	**(1)**

Question	Answer (AO3) 1	Mark
2(e)(ii)	**Award 1 mark for statement, e.g.** Apportionment is the sharing of overheads between two or more cost centres.	**(1)**

Question	Answer (AO3) 1	Mark
2(e)(iii)	**Award 1 mark for statement, e.g.** Absorption is a method of attributing overheads to a product or service.	**(1)**

Question	Answer (AO2) 2	Mark
3(a)(i)	**Award 1 mark for calculating 12 000 and 2 000.** **Award 1 mark for variable cost (of).** **The high low method can be quoted either way around.** Total costs = Fixed + Variable £136 000 = Fixed + 16 000 x variable cost per unit <u>£148 000</u> = Fixed + <u>18 000 x variable cost per unit</u> £12 000 = 2 000 x variable cost per unit (1) Variable cost per unit = £12 000 ÷ 2 000 = £6 (1of)	**(2)**

Question	Answer (AO2) 2	Mark
3(a)(ii)	**Award 1 mark for contribution (of).** **Award 1 mark for ratio (of).** Contribution = £16 – £6 = £10 per unit (1of) Contribution sales ratio = £10 ÷ £16 = 0.625 or 62.5% (1of)	**(2)**

Question	Answer (AO2) 2	Mark
3(a)(iii)	**Award 1 mark for fixed costs (of).** **Award 1 mark for break-even revenue (of).** Fixed costs = £136 000 – (16 000 x £6) = £40 000 (1of) Break-even revenue = £40 000 ÷ 0.625 = £64 000 (1of)	**(2)**

Question	Answer (AO2) 2	Mark
3(a)(iv)	**Award 1 method mark. Award 1 answer mark (both of).** Net profit = (18 000 x £10) - £40 000 (1of) = £140 000 (1of)	**(2)**

Question	Answer (AO2) 4, (AO5) 2	Mark
3(b)	**Award 2 marks for each order option calculation (maximum 4 marks).** **Award 2 marks for explanation of which option to choose and reason why, e.g.** Option 1 Contribution = (15 – 6) = £9 per unit (1) Therefore option 1 would result in (1 000 x £9) additional profit Option 1 additional profit = £9 000 (1of) Option 2 Contribution per unit = (14 – 6) = £8 per unit (1) Therefore option 2 would result in (2 000 x £8)- 10 000 additional profit Additional profit = £6 000 (1of) Advise Makit to accept Option 1 (1of) as this will generate [£3 000] more profit/contribution. (1of) (AO5)	**(6)**

Question	Answer (AO1) 2	Mark
3(c)	**Award 1 mark for each assumption (maximum 2) e.g.** Assumptions in cost-volume-profit analysis • Selling price per unit is constant across the range of activity (1) • Total fixed costs constant across the range of activity (1) • Variable cost per unit is constant across the range of activity (1) • Costs can be split between fixed and variable (1)	
		(2)

Question	Answer (AO1) 2	Mark
4(a)(i)	**Award 1 mark for each example, maximum 2 marks, e.g.** Paperwork, Telephone, Postage, Purchasing department staff costs	**(2)**

Question	Answer (AO1) 2	Mark
4(a)(ii)	**Award 1 mark for each example, maximum 2 marks, e.g.** Insurance, Material handling, Storekeeper costs, Interest	**(2)**

Question	Answer (AO2) 2	Mark
4(b)	**Award 1 method mark and 1 correct answer mark** Material A annual ordering costs Number of orders required = (12 x 3 000) ÷ 6 000 = 6 orders per annum (1) Cost at £400 per order = £400 x 6 = £2 400 (1of)	**(2)**

Question	Answer (AO2) 4	Mark
4(c)	**Award 1 method mark and 1 correct answer mark** Material A inventory holding costs Average inventory = 1 000 + (6 000 ÷ 2) (1) = 4 000 litres (1of) Inventory holding costs = 4 000 x £9 x 25% (1of) = £9 000 (1of)	**(4)**

Question	Answer (AO2) 8, (AO4) 1	Mark
4(d)	**Award 8 marks for calculating values.** **Award 1 mark for correct advice (of).** **Accept answers to two decimal places.** Material B order quantity <table><tr><td></td><td colspan="4" align="center">Order quantity</td></tr><tr><td></td><td align="center">2 000 kg</td><td></td><td align="center">4 500 kg</td><td></td></tr><tr><td>Annual costs</td><td></td><td></td><td></td><td></td></tr><tr><td>Purchase</td><td align="right">1 350 000</td><td>(1)</td><td align="right">1 343 250</td><td>(1)</td></tr><tr><td>Ordering</td><td align="right">10 800</td><td>(1)</td><td align="right">4 800</td><td>(1)</td></tr><tr><td>Inventory holding</td><td align="right">18 750</td><td>(1)</td><td align="right">26 430</td><td>(1)</td></tr><tr><td>**Total** (AO2)</td><td align="right">**1 379 550**</td><td>(1of)</td><td align="right">**1 374 480**</td><td>(1of)</td></tr></table> Advise the company that the order quantity that minimises the annual cost is 4 500 kg. (1of) (AO4)	**(9)**

Question	Answer (AO1) 2	Mark
5(a)	**Award 1 mark for each technique, maximum 2 marks.** 1. Accounting rate of return (1) 2. Payback period (1)	**(2)**

Question	Answer (AO1) 2	Mark
5(b)	**Award 1 mark for each limitation, maximum 2 marks, e.g.** 1. The timing of cash flows (1) 2. The time value of money (1)	**(2)**

Question	Answer (AO2) 8	Mark
5(c)	**Award 8 marks for calculations.** **Accept discounted cash flow figures to two decimal places.** Cost appraisals 	Year	Cash Flow (£)	Discount Factor	Discounted Cash Flow (£)	
1. Purchase equipment for cash				
0	(10 000)	x 1.000	(10 000)	
5	1 000	x 0.621	621	(1)
		Net Present Value	(9 379)	(1of) | | 2. Lease agreement				
1	(2 500)	x 0.909	(2 272.50)	(1)
2	(2 500)	x 0.826	(2 065.00)	(1)
3	(2 500)	x 0.751	(1 877.50)	(1)
4	(2 500)	x 0.683	(1 707.50)	(1)
5	(2 500)	x 0.621	(1 552.50)	(1)
		Net Present Value	(9 475.00)	(1of)		**(8)**

Question	Answer (AO5) 4	Mark
5(d)	**Award maximum 4 marks from below.** **Any other reasonable answers acceptable.** Cash purchase is the most attractive method of acquisition as it has the lowest NPV. (1) Much depends on the financial position of the business. Although outright purchase comes out the best, has the company got the funds to pay for the equipment at the beginning? (1) The company will own the equipment outright (1). Hence, the company will be responsible for its maintenance (1) and disposal at end of life (1). Bookend will receive a positive cash flow from disposal (1) which can take place at any time (1).	**(4)**

Question	Answer (AO2) 7, (AO4) 1	Mark
5(e)	**Award 7 marks for calculations.** **Award 1 mark for explanation given, returning positive NPV.**	

Investment appraisal

Year	Cash Flow (£)	Discount Factor	Discounted Cash Flow (£)	
0	(10 000)	x 1.000	(10 000)	
1	3 000	x 0.909	2 757	(1)
2	3 000	x 0.826	2 478	(1)
3	3 000	x 0.751	2 253	(1)
4	3 000	x 0.683	2 049	(1)
5*	3 000	x 0.621	1 863	(1)
5*	1 000	x 0.621	621	(1)
		Net Present Value	1 991	(1)
*Accept	£4 000	x 0.621	2 484	(2)

Explanation
The investment returns a positive NPV. (1)(AO4)

(8)