

Accounting for Costs

ACCA CERTIFIED ACCOUNTING TECHNICIAN EXAMINATION

INTERMEDIATE LEVEL

THURSDAY 10 JUNE 2004

QUESTION PAPER

Time allowed **2 hours**

This paper is divided into two sections

Section A ALL TWENTY questions are compulsory and
MUST be answered

Section B ALL FOUR questions are compulsory and MUST
be answered

Do not open this paper until instructed by the supervisor

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

The Association of Chartered Certified Accountants

Paper T4



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

Each question in Section A carries 2 marks

1 Which of the following describes a cost unit?

- A** cost per unit of output
- B** direct costs
- C** unit of product
- D** production department

2 The following classifications may be applied to costs:

- (i) direct
- (ii) fixed
- (iii) period
- (iv) production

Which of the above classifications could be applied to the cost of raw materials used by a company in the manufacture of its range of products?

- A** (i) only
- B** (i) and (iv) only
- C** (ii) and (iii) only
- D** (ii), (iii) and (iv) only

3 Total production costs and output over three periods have been:

Period	Production costs	Output
1	£230,485	12,610 units
2	£254,554	14,870 units
3	£248,755	14,350 units

What are the estimated variable production costs per unit if the high–low method is applied?

- A** £10.50
- B** £10.65
- C** £11.15
- D** £15.50

4 What is prime cost?

- A** total direct costs only
- B** total indirect costs only
- C** total non-production costs
- D** total production costs

5 The following charts demonstrate various costs in relation to activity:

Chart 1

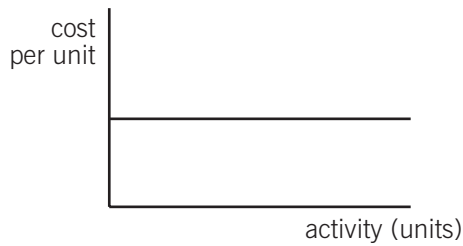


Chart 2

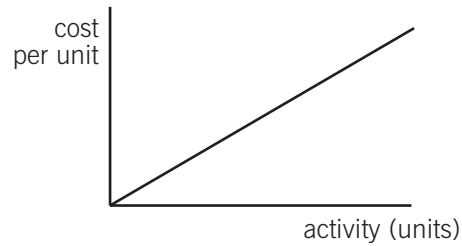


Chart 3

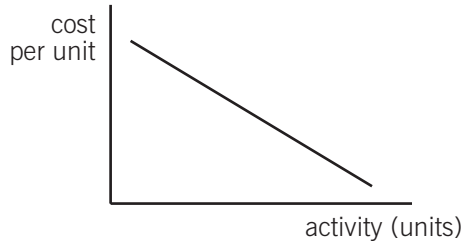
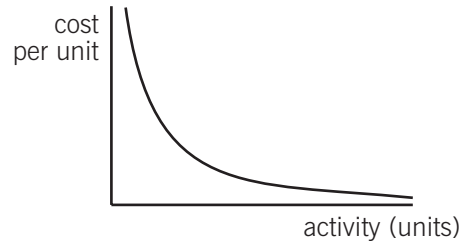


Chart 4



Which of the above charts represents fixed cost per unit?

- A Chart 1
- B Chart 2
- C Chart 3
- D Chart 4

6 The order quantity of a raw material is 2,000 kg. Safety stock of 1,200 kg is held. The stockholding cost of the raw material is £1.20 per kg per annum.

What is the total annual stockholding cost of the raw material?

- A £1,200
- B £1,920
- C £2,640
- D £3,840

7 The following items are some of the costs incurred by a company:

- (i) training of direct operatives
- (ii) wages of distribution staff
- (iii) normal idle time in the factory
- (iv) productive time of direct operatives
- (v) sales personnel salaries

Which of the above items will usually be treated as production overhead costs?

- A (i) and (ii) only
- B (i) and (iii) only
- C (i), (iii) and (iv) only
- D (ii), (iv) and (v) only

- 8 A company pays direct operatives a basic wage of £8.50 per hour plus a productivity bonus. The bonus is calculated as:

$$[(\text{time allowed} - \text{time taken}) \times (\text{basic rate per hour} \div 3)]$$

The time allowed is 2.4 minutes per unit of output. An operative produced 1,065 units in a 37½ hour week.

What were the total earnings of the operative in the week?

- A £318.75
- B £333.20
- C £340.40
- D £362.10

- 9 In a cost accounting system what would be the entry to record the completion of production?

	Debit	Credit
A	Cost of Sales Account	Finished Goods Account
B	Finished Goods Account	Cost of Sales Account
C	Finished Goods Account	Work-in-Progress Account
D	Work-in-Progress Account	Finished Goods Account

- 10 The following production overhead costs relate to a production cost centre:

Budget	£124,000
Actual	£126,740
Absorbed	£125,200

Which of the following statements is true?

- A overheads were over-absorbed by £1,200
- B overheads were over-absorbed by £1,540
- C overheads were under-absorbed by £1,200
- D overheads were under-absorbed by £1,540

- 11 In a cost bookkeeping system what would be the entry for the absorption of production overhead?

	Debit	Credit
A	Cost Ledger Control Account	Production Overhead Account
B	Production Overhead Account	Work-in-Progress Account
C	Work-in-Progress Account	Cost Ledger Control Account
D	Work-in-Progress Account	Production Overhead Account

- 12 33,300 units of a product were manufactured in a period during which 33,950 units were sold for a total revenue of £1,391,950. Opening stock of the product was 1,700 units. The company uses absorption costing. Unit costs of the product were:

Variable manufacturing costs	£16.30
Fixed manufacturing costs	£11.60
Variable selling and administration costs	£3.40
Fixed selling and administration costs	£7.10

What was the change in the value of finished goods stock over the period?

- A £10,595
- B £18,135
- C £24,960
- D £29,295

13 A company manufactures a single product. Production and sales quantities for a period were:

	Production	Sales
Budget	100,000 units	102,000 units
Actual	97,000 units	96,000 units

The fixed production overhead absorption rate is £1.40 per unit.

If marginal costing had been used instead of absorption costing how would the profit for the period have differed?

- A £1,400 less using marginal costing
 - B £1,400 more using marginal costing
 - C £4,200 less using marginal costing
 - D £4,200 more using marginal costing
- 14 6,500 kg of a product were manufactured in a period. There is a normal loss of 20% of the weight of material input. An abnormal gain of 4% of the material input occurred in the period.

How many kg of material (to the nearest kg) were input to production in the period?

- A 5,460
 - B 7,738
 - C 8,125
 - D 8,553
- 15 **How are abnormal GAINS recorded in a process account?**
- A credited at a cost per unit based on total production cost divided by actual output
 - B credited at a cost per unit based on total production cost divided by normal output
 - C debited at a cost per unit based on total production cost divided by actual output
 - D debited at a cost per unit based on total production cost divided by normal output

16 Products A and B are manufactured in a joint process. The following data is available for a period:

Joint process costs		£30,000
Output:	Product A	2,000 kg
	Product B	4,000 kg
Selling price:	Product A	£12 per kg
	Product B	£18 per kg

What is Product B's share of the joint process costs if the sales value method of cost apportionment is used?

- A £7,500
 - B £18,000
 - C £20,000
 - D £22,500
- 17 **Which of the following describes the margin of safety?**
- A actual contribution margin achieved compared with that required to break-even
 - B actual sales compared with sales required to break-even
 - C actual versus budgeted net profit margin
 - D actual versus budgeted sales

18 The following data relates to a company with a single product:

Selling price	£12.50 per unit
Fixed production costs	£77,000 per period
Fixed non-production costs	£46,000 per period
Break-even sales per period	24,600 units

What is the contribution per unit?

- A** £3.13
- B** £5.00
- C** £7.50
- D** £9.37

19 A company is considering the use of Material X in a special order. A sufficient quantity of the material, which is used regularly by the company in its normal business, is available from stock.

What is the relevant cost per kg of Material X in the evaluation of the special order?

- A** cost of the last purchase
- B** nil
- C** replacement cost
- D** saleable value

20 A capital investment project has an initial investment followed by constant annual returns.

How is the payback period calculated?

- A** $\text{initial investment} \div \text{annual profit}$
- B** $\text{initial investment} \div \text{annual net cash inflow}$
- C** $(\text{initial investment} - \text{residual value}) \div \text{annual profit}$
- D** $(\text{initial investment} - \text{residual value}) \div \text{annual net cash inflow}$

(40 marks)

Section B – ALL FOUR questions are compulsory and MUST be attempted

- 1** A company uses Material M in the manufacture of its products. The order quantity of the material is 1,000 kg. Average usage is 400 kg per week and a safety stock of 500 kg is kept. Lead time between order and receipt is two weeks.

Receipts and issues of Material M over a three week period were:

		Kg	Total cost (£)
Week 1: Day 1	Balance b/f	900	10,800
Day 3	Issue	400	
Day 5	Receipt	1,000	12,600
Week 2: Day 2	Issue	260	
Day 4	Issue	170	
Week 3: Day 3	Issue	370	

Required:

Calculate in relation to Material M the:

- (a) re-order level; (3 marks)
- (b) total cost of the four issues in the three week period if the weighted average method is applied when each issue occurs; (5 marks)
- (c) cost of the stock remaining at the end of the three week period if the Last-in First-out (LIFO) method is applied. (4 marks)

(12 marks)

- 2 Production overheads allocated and apportioned to cost centres in a factory for a period, along with additional data, are:

	Production Cost Centre			Service Cost Centre	
	A	B	C	X	Y
Allocated overheads	£17,628	£38,490	£14,671	£3,795	£6,130
Apportioned overheads	£29,938	£45,841	£28,360	£4,640	£5,750
Additional data:					
Number of employees	14	21	14	7	8
Direct labour hours	5,200	7,460	4,780	–	–

Overheads allocated and apportioned to Service Cost Centre X are re-apportioned on the following basis: Production Cost Centre A 20%, Production Cost Centre B 45%, Production Cost Centre C 35%.

Overheads allocated and apportioned to Service Cost Centre Y are re-apportioned on the basis of the number of employees in the other cost centres.

Production overheads are absorbed on the basis of direct labour hours.

Required:

- (a) Re-apportion the service cost centre overheads. (7 marks)
- (b) Calculate an overhead absorption rate for each production cost centre. (3 marks)
- (c) Calculate the total production cost of Job 57. Direct production costs of the job are:

Direct materials	£1,678	
Direct labour:		
Cost Centre A	£288 (36 hours)	
Cost Centre B	£425 (50 hours)	
Cost Centre C	£304 (32 hours).	(4 marks)

(14 marks)

- 3 (a) (i) Give an example of a business where job costing may be applied and describe the features of this type of business which make the costing method appropriate; (4 marks)
- (ii) Give an example of a business where process costing may be applied and describe the features of this type of business which make the costing method appropriate. (4 marks)

- (b) A company manufactures a product by means of two successive processes, Process 1 and Process 2. The following relates to the period just ended:

	Process 2	
	Units	Cost (£)
Opening work-in-progress	Nil	Nil
Transfer from Process 1	2,160	22,032
Material added		5,295
Conversion costs		8,136
Transfer to finished goods warehouse	1,950	
Closing work-in-progress	210	

The work-in-progress at the end of the period was 80% complete with respect to material added and 40% complete with respect to conversion costs in Process 2.

Required:

Calculate for the period the:

- (i) production cost per equivalent unit of the product; (6 marks)
- (ii) value of the transfer to the finished goods warehouse; (2 marks)
- (iii) value of the closing work-in-progress in Process 2. (3 marks)

(19 marks)

4 A company is considering investment in several projects. The following information relates to three of the projects:

Project 1: Investment of £119,000 at the start of the project.
Net cash inflow of £13,500 per annum in perpetuity.

Project 2: Investment of £241,000 at the start of the project.
Net present value (NPV) at 20% of (£23,000) i.e. negative, based on net cash inflows of:

1st year	£60,000
2nd year	£65,000
3rd year	£70,000
4th year	£100,000
5th year	£85,000

Project 3: Investment of £186,000 at the start of the project.
Constant annual net cash inflows for five years.
Internal rate of return (IRR) of 14%.

Assume that net cash inflows occur at the end of each year.

Discount factors at 10% per annum (the company's cost of capital) and at 14% per annum are:

Year	10%	14%
1	0.909	0.877
2	0.826	0.769
3	0.751	0.675
4	0.683	0.592
5	0.621	0.519
1 to 5	<u>3.790</u>	<u>3.432</u>

Required:

- (a) Calculate the net present value (NPV) of Project 1 at the company's cost of capital. (3 marks)
- (b) Calculate the estimated internal rate of return (IRR) of Project 2. (6 marks)
- (c) Calculate the annual net cash inflow of Project 3. (3 marks)
- (d) If the cost of capital increased to 15%, state, with reasons, whether investment in Projects 2 and 3 would be justified. (NB Base your answer on the discounted cash flow analysis already carried out. No further discounted calculations are required.) (3 marks)

(15 marks)

End of Question Paper