

Series 4 Examination 2008

MANAGEMENT ACCOUNTING

Level 3

Wednesday 12 November

Subject Code: 3023

Time allowed: **3 hours**

INSTRUCTIONS FOR CANDIDATES

- Answer **5** questions.
- All questions carry equal marks.
- Write your answers in blue or black ink/ballpoint. Pencil may be used only for graphs, charts, diagrams, etc.
- All workings must be shown.
- All answers must be correctly numbered but need not be in numerical order.
- You may use a calculator provided the calculator gives no printout, has no word display facilities, is silent and cordless. The provision of batteries and their condition is your responsibility.

QUESTION 1

- (a) Discuss the relevance of both absorption and marginal costing statements to decision-making. (7 marks)
- (b) Define, and explain fully, the term **opportunity cost**. (6 marks)
- (c) (i) Define, with an example, the term **limiting factor** (3 marks)
- (ii) Describe the approach to the allocation of resources, for short-term profit maximisation in a business manufacturing a range of products, where direct labour hours are the limiting factor. (4 marks)

(Total 20 marks)

QUESTION 2

A company manufactures Product Y by mixing three raw materials together. The raw material standards for a batch of 100 kg of Product Y are:

Material S	25 kg	@ £3.60 per kg
Material T	40 kg	@ £2.80 per kg
Material U	<u>60</u> kg	@ £0.90 per kg
	<u>125</u> kg	

Standard wastage in the preparation of each material is 20% of input.

In the period just ended the actual raw material usage and costs, incurred in the manufacture of 24,300 kg of Product Y, were:

Material S	5,840 kg	costing £21,215
Material T	10,140 kg	costing £28,340
Material U	14,820 kg	costing £13,320.

REQUIRED

- (a) Calculate the standard direct material cost per kg of Product Y. (2 marks)
- (b) Calculate the following direct material variances:
- (i) price for Material S only (2 marks)
- (ii) total usage (4 marks)
- (iii) total mix (4 marks)
- (iv) total yield. (4 marks)
- (c) Define the terms: **ideal standard** and **attainable standard**. (4 marks)

(Total 20 marks)

QUESTION 3

The following information relates to the three products that are manufactured and sold by a company:

(£ per unit)	Product		
	P	Q	R
Selling price	8.60	5.00	11.20
Variable production costs	4.90	3.00	5.24
Variable non-production costs	1.12	0.60	1.48

Sales per period are:

Product P	3,800 units
Product Q	6,340 units
Product R	2,900 units

Fixed costs per period are:

Production	£15,620
Non-production	£9,110

REQUIRED

(a) Calculate the:

- (i) contribution/sales ratio of each product (3 marks)
- (ii) net profit per period. (3 marks)

(b) Calculate, based upon the above sales mix (units), the:

- (i) overall contribution/sales ratio (to one decimal place of %) (4 marks)
- (ii) break-even point sales (to the nearest £ hundred) (3 marks)
- (iii) sales (to the nearest £ hundred) required in a period to earn a profit of £10,000. (3 marks)

(c) Calculate the overall contribution/sales ratio (to one decimal place of %) based upon the following revised sales mix:

Product P	30% of total sales revenue
Product Q	30% of total sales revenue
Product R	40% of total sales revenue. (4 marks)

(Total 20 marks)

QUESTION 4

A company is divided into 2 investment centres. Investment Centre A manufactures a single product which is sold to Investment Centre B as well as to outside customers. The transfer price of the product between the 2 investment centres is under review.

The following information is available for Investment Centre A:

	Sales to outside customers	Sales to Investment Centre B	Total
Sales units per period	16,600	9,300	25,900
Selling price	£7.80 per unit		
Variable costs	£4.45 per unit	£4.20 per unit	
Fixed costs per period	£46,480	£26,040	£72,520
Capital employed			£96,400

Fixed costs have been apportioned on the basis of sales units.

Investment Centre B sells entirely to outside customers. Sales and costs per period are:

Sales £267,100
Costs £172,440 (excluding the cost of units transferred from Investment Centre A).

REQUIRED

- (a) If the transfer price is set at £7.20 per unit, calculate per period:
- (i) the net profit for each investment centre (7 marks)
 - (ii) the return on capital employed (ROCE) for Investment Centre A. (2 marks)
- (b) Calculate the transfer price (to 3 decimal places of £) that is required for Investment Centre A to earn a ROCE of 12% per period. (7 marks)
- (c) Calculate the change in period profit for each investment centre, and for the company as a whole, if the transfer price is set at £7.00 per unit, rather than £7.20 per unit. (4 marks)

(Total 20 marks)

QUESTION 5

A company is preparing budgets for a three-month period (November 2008 to January 2009). Details include:

(i) **Sales:**

November 2008	£115,200
December 2008	£180,600
January 2009	£108,900

10% of sales are for cash. 70% of the value of credit sales are payable in the month following sale, with the balance one month later.

(ii) **Gross profit:**

Products are bought-in and have a gross profit margin of 30% of sales. Products are purchased in the month before expected sale, payable 60% in the month following purchase with the balance one month later.

(iii) **Overheads:**

Variable overheads are 6% of sales value. Fixed overheads, including depreciation of £9,100, are £26,400 per month. All overheads, excluding depreciation, are paid for in the month incurred.

(iv) **Capital expenditure:**

Investment of £44,000 in fixed assets will be paid for in January 2009.

The following information relates to the three-month period just ended:

(i) **Sales:**

August 2008	£176,700
September 2008	£153,000
October 2008	£120,200

(ii) Products were purchased in the month before sale.

(iii) The cash balance at the end of October 2008 was £4,640.

REQUIRED

(a) Prepare a cash budget for **each** month (November 2008, December 2008 and January 2009).

(13 marks)

(b) Calculate:

(i) the value of stock at the **end of October 2008**

(ii) the budgeted value of trade creditors at the **end of December 2008**

(iii) the budgeted value of debtors at the **end of January 2009**.

(7 marks)

(Total 20 marks)

QUESTION 6

A company is evaluating an investment project requiring an outlay of £1.4million on new machines (Year 0). The machines would be expected to have a useful working life of six years, with a residual value of £80,000 (Year 6), and would be depreciated on a straight-line basis.

Estimates of cost savings (net of depreciation of the new machines) arising from the investment are:

Year	£'000
1	20
2	50
3 to 6	80 per annum

REQUIRED

(a) Calculate, in relation to the investment project, the:

- (i) average annual accounting rate of return (5 marks)
- (ii) payback period (6 marks)
- (iii) discounted cash flow internal rate of return.

Discount factors:

Year	5%	10%	15%	20%	25%
1	0.952	0.909	0.870	0.833	0.800
2	0.907	0.826	0.756	0.694	0.640
3	0.864	0.751	0.658	0.579	0.512
4	0.823	0.683	0.572	0.482	0.410
5	0.784	0.621	0.497	0.402	0.328
6	0.746	0.564	0.432	0.335	0.262

(6 marks)

(b) State whether the investment project is financially worthwhile if the company's cost of capital is 8% per annum. Explain your reasoning.

(3 marks)

(Total 20 marks)