

Series 3 Examination 2008

MANAGEMENT ACCOUNTING

Level 3

Monday 9 June

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

REQUIRED

- (a) An expanding business which is budgeting high profits may produce a cash budget indicating a deficit. Explain why this is so. (7 marks)
- (b) Outline **three** objectives of budgetary planning and control systems. (7 marks)
- (c) State the formula used in cost – volume – profit analysis to calculate **each** of the following:
- (i) the break-even point in sales revenue
 - (ii) the break-even point in sales units
 - (iii) the sales revenue required to achieve a target profit. (6 marks)
- (Total 20 marks)**

QUESTION 2

REQUIRED

- (a) Briefly describe, and appraise, **two** different types of standard that may be used as the basis for a standard costing system. (6 marks)

A company budgeted to sell 7,500 units of a product in a month at a standard selling price of £20 each. The standard cost of the product is £14 per unit. During the month actual sales of the product were 7,720 units with revenue of £152,470.

REQUIRED

- (b) Calculate the sales price variance and the sales volume profit variance for the month. (6 marks)

In the same month, the following labour cost variances were reported relating to the manufacture of the product:

Labour rate variance, £1,150 Adverse
Labour efficiency variance, £624 Favourable.

The standard labour rate is £8 per hour and labour costs of £37,006 were incurred in the manufacture of 7,600 units of the product during the month.

REQUIRED

- (c) (i) Calculate the number of labour hours worked in the month (4 marks)
- (ii) Calculate the standard hours per unit of product manufactured. (4 marks)
- (Total 20 marks)**

QUESTION 3

The following are the expected production overhead costs for a factory department at three different levels of activity in a period:

	Output (units)		
	16,000	20,000	24,000
	£	£	£
Variable costs	14,000	17,500	21,000
Semi-variable costs	12,200	13,000	13,800
Fixed costs	<u>31,000</u>	<u>31,000</u>	<u>31,000</u>
	<u>57,200</u>	<u>61,500</u>	<u>65,800</u>

The total production overhead costs of the department for a period can be calculated using an equation of the form:

$$y = a + bx$$

where:

y is the total production overhead cost (£)

a is the total fixed production overhead cost (£)

b is the variable production overhead costs (£ per unit of output)

x is the number of units of output.

REQUIRED

- (a) Using the above data, calculate the values of a and b . (6 marks)
- (b) Estimate the total production overhead costs for the department in a period if 18,000 units are manufactured. (2 marks)
- (c) Calculate the predetermined production overhead absorption rate, per unit of output for the department, based on planned production of 20,000 units in a period. (2 marks)
- (d) Using the absorption rate established in (c) above, calculate the over/under absorbed overhead if actual output is 21,500 units and costs are as expected. (5 marks)
- (e) Contrast the way in which production overhead costs are attributed to products using activity based costing (ABC) with the more traditional full absorption costing approach. (5 marks)

(Total 20 marks)

QUESTION 4

Two divisions of a company have the following balance sheets at the end of a period:

	Division A £000	Division B £000
Long term capital at start of period	1,075	3,210
Profit before interest for period	<u>182</u>	<u>458</u>
Long term capital at end of period	<u>1,257</u>	<u>3,668</u>
Fixed assets (net book value)	832	2,689
Current assets:		
Stock	241	512
Debtors	276	582
Bank	<u>24</u>	<u>79</u>
	541	1,173
Current liabilities:		
Creditors	<u>116</u>	<u>194</u>
Net current assets	<u>425</u>	<u>979</u>
Net assets	<u>1,257</u>	<u>3,668</u>

Additional information for the period:

Sales (all on credit)	£2,685,000	£10,634,000
Gross profit margin	36%	28%

REQUIRED

- (a) Calculate the return on average capital employed and the residual income for each of the divisions. The cost of capital of each division is 12% per annum. (6 marks)
- (b) Calculate **two** other ratios to provide further analysis of the profitability of the two divisions. (6 marks)
- (c) Calculate **two** ratios to provide analysis of the divisions' management of working capital. (6 marks)
- (d) Using the ratios calculated in (c) above, contrast the two divisions' management of working capital. (2 marks)

(Total 20 marks)

QUESTION 5

A company is working at full labour capacity and will be unable to recruit additional skilled labour for the foreseeable future.

A component currently manufactured by the company has the following unit costs:

	£ per unit
Direct materials	1.60
Direct labour (0.25 hours at £5.60 per hour)	1.40
Variable overheads	0.60
Fixed overheads	<u>1.90</u>
	<u>5.50</u>

The component could be obtained from an outside supplier for £4.50 per unit.

If the component is not manufactured by the company, the direct labour released could be employed in increasing the output (and sales) of an existing product (Product A) which is sold for £35 and which has the following unit costs:

	£ per unit
Direct materials	9.00
Direct labour (2 hours at £5.60 per hour)	11.20
Variable overheads	3.80
Fixed overheads	<u>11.00</u>
	<u>35.00</u>

The production director believes that the component must continue to be manufactured by the company as special equipment was installed only a year ago. The special equipment cost £65,000 but has no resale value or alternative use.

REQUIRED

- (a) State, with supporting calculations, whether the component should continue to be manufactured by the company, or whether it should be bought-in, whilst labour remains in short supply. (11 marks)
- (b) Comment upon the production director's views. (5 marks)
- (c) Calculate the additional profit that would result if an additional hour of skilled labour could be made available. (4 marks)

(Total 20 marks)

QUESTION 6

A company has to choose between two projects, Project A and Project B. Cash inflow projections are as follows:

Year	Project A £000	Project B £000
1	100	200
2	200	200
3	300	200
4	400	200
5	500	200

The projects require an initial investment of:

Project A £900,000
Project B £640,000

The cost of capital is 12% per annum. Discount factors between 12% and 18% are as follows:

Year	12%	13%	14%	15%	16%	17%	18%
1	0.893	0.885	0.877	0.870	0.862	0.855	0.847
2	0.797	0.783	0.769	0.756	0.743	0.731	0.718
3	0.712	0.693	0.675	0.658	0.641	0.624	0.609
4	0.636	0.613	0.592	0.572	0.552	0.534	0.516
5	<u>0.567</u>	<u>0.543</u>	<u>0.519</u>	<u>0.497</u>	<u>0.476</u>	<u>0.456</u>	<u>0.437</u>
	<u>3.605</u>	<u>3.517</u>	<u>3.433</u>	<u>3.352</u>	<u>3.274</u>	<u>3.199</u>	<u>3.127</u>

REQUIRED

(a) Calculate for each project:

- (i) the net present value
- (ii) the internal rate of return.

(12 marks)

(b) On the basis of your calculations in (a), advise management regarding the choice of project and explain the reasoning behind your advice.

(4 marks)

(c) Explain how the profitability index is calculated and discuss whether the profitability index would assist management in its choice of project in the situation above.

(4 marks)

(Total 20 marks)