



SERIES 2 EXAMINATION 2002

MANAGEMENT ACCOUNTING

THIRD LEVEL

(Code No: 3023)

MONDAY 8 APRIL

Instructions to Candidates

- (a) *The time allowed for this examination is 3 hours.*
- (b) *Answer 5 questions.*
- (c) *All questions carry equal marks.*
- (d) *All answers must be clearly and correctly numbered but need not be in numerical order.*
- (e) *Your answers should be written in blue or black ink/ballpoint. Pencil may be used only for graphs, charts, diagrams, etc.*
- (f) *Candidates may use calculators provided the calculators give no printout, have no word display facilities, are silent and cordless. The provision of batteries and responsibility for their condition must rest with the candidate.*
- (g) *All workings must be shown.*

QUESTION 1

REQUIRED

- (a) List the progressive stages in the preparation of a company's budget. (6 marks)
- (b) Define, and comment on, the different types of standard used in standard costing. (7 marks)
- (c) Assess the importance of variance analysis and explain any limitations in using it as the basis for remedial action. (7 marks)

(Total 20 marks)

QUESTION 2

Divisions A and B are investment centres within the AB Group. Division A manufactures a component especially for Division B. The anticipated requirements for, and costs and transfer price of, this component for the year ahead are as follows:

Production	112,500 units
Variable cost	£5.70 per unit
Fixed cost	£2.40 per unit
Transfer price	£8.50 per unit

Company C, which is not part of the AB Group, has offered to supply the component to Division B for £7.50 per unit.

REQUIRED

- (a) Explain fully the term 'investment centre'. (4 marks)
- (b) Contrast an investment centre with a profit centre. (3 marks)
- (c) Outline the objectives of transfer pricing. (3 marks)
- (d) Establish, on the basis of the figures supplied above, whether it is worthwhile for the AB Group to continue to manufacture the component. (4 marks)
- (e) Determine whether Division A would benefit if the component were to be purchased from Company C. (4 marks)
- (f) Determine whether Division B would benefit if the component were to be purchased from Company C. (2 marks)

(Total 20 marks)

QUESTION 3

A company has share capital and reserves totalling £7,000,000 and a gearing ratio, measuring the proportion of long-term debt to total long-term capital employed, of 30%. The weighted-average cost of capital, used in the evaluation of investment projects, is established from the following annual cost of each component of long-term capital:

Share capital and reserves	13%
Debt capital	9%

An investment proposal under consideration would require an initial outlay of £170,000 with forecast cash inflows of £50,000 per annum for 5 years. A positive terminal value of £20,000 would be expected in Year 6.

Discount factors at 10% and 20% are as follows:

	10%	20%
Year 1	0.909	0.833
Year 2	0.826	0.694
Year 3	0.751	0.579
Year 4	0.683	0.482
Year 5	0.621	0.402
Year 6	0.564	0.335

REQUIRED

Calculate:

- (a) the weighted-average cost of capital (% per annum) (4 marks)

- (b) the internal rate of return (IRR) of the proposed project and advise the company whether the investment is worthwhile (9 marks)

- (c) the return on total long-term capital employed (ROCE) and the residual income (RI) for the company as a whole if net profit before interest in the current year is expected to be £1,600,000. (7 marks)

(Total 20 marks)

QUESTION 4

A company manufactures a liquid which it sells in 50 litre containers at a selling price of £80 per container. The processing plant has an output capacity of 200,000 containers per annum. Current capacity utilisation is only 60%.

Management is considering a reduction in the selling price of the product in order to capture a larger market share. The results of market research indicate the following relationship between selling price and sales quantity:

Selling price (£ per 50 litre container)	Sales quantity (50 litre containers per annum)
80.00	120,000
77.50	130,000
75.00	150,000
70.00	175,000

Variable costs are £45 per container. Fixed costs are currently £3,600,000 per annum but would increase by £190,000 per annum if production exceeds 160,000 containers per annum.

REQUIRED

- (a) Tabulate the sales, costs and profit at each of the four possible selling prices, and thus recommend the selling price to maximise profit.

(10 marks)

The market research data indicates the following range of possible sales volumes at a selling price of £75 per container:

125,000 units,	probability 0.3
150,000 units,	probability 0.5
165,000 units,	probability 0.2

REQUIRED

- (b) Calculate the expected value of sales (number of containers) at a selling price of £75.

(3 marks)

- (c) Discuss how this further information could affect the decision regarding selling price. Carry out any additional calculations that you consider relevant in order to illustrate your discussion.

(7 marks)

(Total 20 marks)

QUESTION 5

Representative manufacturing costs for a company, for four different levels of output in a period, are as follows:

	Units			
	10,000	12,000	15,000	19,000
Costs:				
Direct materials	18,400	22,080	27,600	34,960
Direct labour	13,500	16,200	20,250	25,650
General services	3,500	3,900	4,500	5,300
Machine maintenance	5,660	6,260	7,160	8,360
Building related costs	7,200	7,200	7,200	7,200
Depreciation	7,000	7,200	7,500	7,900
Management	3,000	3,000	3,400	3,400

REQUIRED

(a) Analyse the seven cost elements above into the following four categories:

Variable
Semi-variable
Stepped-fixed
Fixed.

(4 marks)

(b) Using the high-low method, analyse the semi-variable costs into variable and fixed components.

(6 marks)

(c) Forecast the total manufacturing costs that would be incurred at an output of 13,800 units.

(4 marks)

The average selling price is £6.00 per unit and administration and selling costs (all fixed) are £7,000 per period.

REQUIRED

(d) Calculate the break-even point (in units) per period.

(6 marks)

(Total 20 marks)

QUESTION 6

A company, which manufactures and sells a single product, had the following budgeted sales revenue and production costs for a period during which 10,000 units of the product were budgeted to be manufactured and sold:

	£	
Sales revenue	160,000	
Cost of sales:		
Direct materials	60,000	(8,000 kg @ £7.50 per kg)
Direct labour	24,000	(3,000 hours @ £8.00 per hour)
Fixed overhead	<u>45,000</u>	(3,000 direct labour hours @ £15.00 per hour)
	<u>129,000</u>	
Gross profit	<u>31,000</u>	

Actual sales revenue and production costs for the same period, during which 8,000 units were sold and 9,000 units were manufactured, were as follows:

	£	
Sales revenue	128,000	
Cost of production:		
Direct materials	54,094	(7,310 kg @ £7.40 per kg)
Direct labour	21,546	(2,660 hours @ £8.10 per hour)
Fixed overhead	<u>44,600</u>	
	120,240	
less increase in stock	<u>12,900</u>	
Cost of sales	<u>107,340</u>	
Gross profit	<u>20,660</u>	

REQUIRED

- (a) Demonstrate how the increase in stock valuation of £12,900 has been calculated. (2 marks)
- (b) Reconcile the budgeted gross profit for the period with the actual gross profit by calculating and listing all of the sales and cost variances. NB There was no selling price variance in the period. (18 marks)

(Total 20 marks)

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