LCCI EXAMINATIONS BOARD

SERIES 3 EXAMINATION 2003

MANAGEMENT ACCOUNTING

LEVEL 3

(Code No: 3023)

THURSDAY 12 JUNE

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.*

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QUESTION 1

REQUIRED

(a) Describe all the stages in the preparation of a budget.

(8 marks)

(b) Explain, and illustrate with an example based on your own figures, **each** of the following control ratios that may be calculated to provide further information regarding production overhead variances:

(i) Production volume (activity) ratio

(ii) Capacity ratio

(iii) Efficiency ratio.

(12 marks)

(Total 20 marks)

QUESTION 2

A wholesaler has the following Balance Sheet at 31 May:

	£000	**£000**
Fixed assets (at cost)		670
Cumulative depreciation		(201)
		469
Current assets:		
Stock	84	
Debtors	120	
Prepaid expenses	6	
Bank	52	
	262	
Liabilities due within one year:		
Creditors for goods	174	
Creditors for expenses	39	
	213	
Net current assets		49
		518
Financed by:		
Ordinary shares		300
Reserves		218
		518

QUESTION 2 CONTINUED

Additional information:

(1) Forecast sales:

June	£140,000
July	£160,000
August	£180,000
September	£190,000

(2) 20% of sales are for cash with the remainder on credit paid for one month after sale.

(3) Stock of goods at the end of each month is to be sufficient to meet the following month's forecast sales. Settlement is two months after purchase.

(4) The gross profit margin is 40% of sales.

(5) Overheads of £52,000 per month consist of:

Depreciation	£7,000	
Rent	£6,000	(paid quarterly in advance on 31 March, 30 June, 30 September and 31 December)
Other	£39,000	(paid in the month after incurred).

(6) Capital expenditure of £96,000 will be paid in July. Depreciation, using the straight line method based on a life of eight years, will commence in July. This is not included in the monthly depreciation in (5) above. There will be no effect on any other expenses.

REQUIRED

(a) Prepare a budget for the purchases of goods for **each** of the months June, July and August.
(4 marks)

(b) Prepare a **single** profit budget for the three month period, June to August.
(5 marks)

(c) Prepare a cash budget for **each** of the months June, July and August.
(11 marks)

(Total 20 marks)

QUESTION 3

A company manufactures a product by combining three raw materials (A, B and C) in the following standard proportions by weight:

Material A	20%
Material B	50%
Material C	30%

The standard yield is 90% of the total weight of input.

The standard raw material prices are:

Material A	£15.00 per kg
Material B	£6.00 per kg
Material C	£8.50 per kg

Actual usage and cost of the three raw materials in the manufacture of 62,240 kg of the product in a period were:

Material A	13,800 kg	£205,068
Material B	34,000 kg	£210,800
Material C	21,200 kg	£164,936

REQUIRED

(a) Calculate the standard raw material cost of the product per kg of output.

(5 marks)

(b) Calculate the following raw material variances for the period:

(i) price (for each raw material and in total) (4 marks)

(ii) mix (for each raw material and in total) (6 marks)

(iii) yield (in total only). (5 marks)

(Total 20 marks)

QUESTION 4

Divisions A and B are investment centres within a group of companies. The following information is available for Division A for the year just ended:

	£000
Ordinary share capital and reserves	410
Long-term debt capital (8% per annum)	150
Profit before interest	69
Dividend on ordinary shares	24

Division A sells a component to Division B. The following information is available regarding the component:

Units per annum	6,000
Transfer price per unit	£2.80
Variable cost per unit in Division A	£1.65
Fixed cost per unit in Division A	£0.87

The component has now become available from an outside supplier for £2.50 per unit.

REQUIRED

(a) Define the term **investment centre**.

(3 marks)

(b) Calculate for Division A for the year just ended:

(i) the return on total capital employed (2 marks)

(ii) the return on shareholder funds. (3 marks)

(c) Discuss the impact on each division, and on the group, if Division B were to purchase the component from the outside supplier. Use calculations where appropriate to support your discussion.

(12 marks)

(Total 20 marks)

QUESTION 5

A company manufactures and sells three products (X, Y and Z). Sales demand in the following period is estimated to be:

Product X	24,000 units
Product Y	22,000 units
Product Z	13,000 units

No finished goods stock is carried.

One of the materials used, M9, is required in all three products in the following quantities:

Product X	0.2 kg per unit
Product Y	0.3 kg per unit
Product Z	0.4 kg per unit

20,000 kg of Material M9 are available in the following period:

The three products are manufactured by a team of direct operatives whose capacity in the following period is 9,200 direct labour hours. All direct operatives are paid at a rate of £9.00 per hour.

The following further information is available:

	Product X **£/unit**	**Product Y** **£/unit**	**Product Z** **£/unit**
Selling price	9.00	14.00	16.00
Costs:			
Direct materials	2.50	5.00	4.90
Direct labour	0.90	1.80	2.25
Variable overheads	0.40	0.80	1.00
Fixed overheads	3.90	3.90	3.90

REQUIRED

(a) Determine the limiting factor for the following period in the situation above.
(6 marks)

(b) Establish the production schedule for the following period with the objective of maximising profit.
(10 marks)

(c) Prepare a profit statement for the following period based upon the production schedule in (b) above.
(4 marks)

(Total 20 marks)

QUESTION 6

A company has estimated the cash flows from a proposed investment project as follows:

	£000
Year 0	(392)
Years 1 – 4	140 per annum

The company finances its investment projects from the following mix of funds:

Share capital	60% (required return 13% per annum)
Debt capital	40% (cost 8% per annum)

REQUIRED

(a) Calculate the net present value (NPV) of the investment (to the nearest £000) at **each** of the following discount rates:

(i) 5%
(ii) 10%
(iii) 15%
(iv) 20%

Discount factors are:

Discount rate	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Years 1-4**
5%	0.952	0.907	0.864	0.823	3.546
10%	0.909	0.826	0.751	0.683	3.169
15%	0.870	0.756	0.658	0.572	2.856
20%	0.833	0.694	0.579	0.482	2.588

(6 marks)

(b) Calculate the company's weighted average cost of capital.

(5 marks)

(c) Plot on a graph the four NPVs calculated in (a) above and draw the NPV curve.

(5 marks)

(d) Using the graph from (c) above, estimate:

(i) the NPV of the investment (to the nearest £000) at the company's weighted average cost of capital

(2 marks)

(ii) the internal rate of return (IRR) of the investment (to the nearest whole %).

(2 marks)

(Total 20 marks)

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