LCCI EXAMINATIONS BOARD

SERIES 4 EXAMINATION 2002

MANAGEMENT ACCOUNTING

LEVEL 3

(Code No: 3023)

TUESDAY 12 NOVEMBER

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) Define:

(i) Cost centre
(ii) Profit centre
(iii) Investment centre.

(6 marks)

(b) A pyramid of ratios, starting with **three** key financial performance measures, may be used to evaluate investment centres. State the:

(i) name of **each** of the **three** key financial performance measures
(ii) formula by which **each** is calculated
(iii) link between the **three** measures.

(7 marks)

(c) Suggest **three** measures (**either** financial or non-financial) which may be used to evaluate the performance of a hospital that is operated as a non-profit making organisation.

(7 marks)

(Total 20 marks)

QUESTION 2

A factory has a normal working week of 40 hours which is treated as standard for budgeting purposes with no allowance for lost time. Each direct operative works, where necessary, across different cost centres to suit fluctuating work requirements. The standard hourly wage rate is £7.00 per hour.

In the week just ended:

(1) In Cost Centre A, the capacity ratio (actual hours as a percentage of budget hours) was 75%. 13 direct operatives were employed with no overtime. One of the operatives was absent through sickness for 10 hours. No hours were lost due to any other cause.

(2) In Cost Centre B, 20 direct operatives were employed. A total of 100 overtime hours were worked in addition to normal hours. No hours were lost due to sickness or any other cause. This compares with a budget of 18 direct operatives working normal hours. The output achieved was equivalent to 875 standard direct labour hours.

REQUIRED

(a) Calculate for the week just ended:

(i) the total budgeted direct labour hours and the budgeted number of direct operatives in Cost Centre A, based on **each** operative working a 40 hour week with no lost hours

(6 marks)

(ii) the total budgeted direct labour hours, and the capacity ratio achieved, in Cost Centre B

(6 marks)

(iii) the efficiency ratio and the production volume ratio in Cost Centre B.

(6 marks)

(b) Demonstrate the relationship between the **three** ratios calculated in (a) above for Cost Centre B.

(2 marks)

(Total 20 marks)

QUESTION 3

Material XX is used in all four products manufactured by a company. Availability of Material XX, which costs £8.00 per kg, is restricted to 4,000 kg per month until further notice.

Details of selling prices and unit costs of **each** of the **four** products are as follows:

	Product A £/unit	**Product B £/unit**	**Product C £/unit**	**Product D £/unit**
Selling price	4.60	5.00	7.00	7.50
Costs:				
Material XX	0.40	0.80	0.80	1.40
Other direct materials	1.00	1.15	1.60	1.80
Direct wages (£6.00 per hour)	1.20	1.20	1.80	1.80
Overheads	1.50	1.50	2.25	2.25

Fixed overheads total £600,000 per annum. Overhead absorption, using direct labour hours, is based upon the following current monthly sales demand for the products:

Product A	8,000 units
Product B	12,000 units
Product C	10,000 units
Product D	10,000 units

REQUIRED

(a) Determine the quantity of **each** product that should be manufactured per month in order to maximise profit.

(15 marks)

(b) Calculate the maximum monthly profit.

(5 marks)

(Total 20 marks)

QUESTION 4

A company buys and sells a single product. Profit budgets (by month) for the 6 month period from January 2003 are:

	January	**February**	**March**	**April**	**May**	**June**
	£	**£**	**£**	**£**	**£**	**£**
Sales	160,000	170,000	180,000	180,000	160,000	150,000
Cost of sales	88,000	93,500	99,000	99,000	88,000	82,500
Gross profit	72,000	76,500	81,000	81,000	72,000	67,500
Wages	34,000	34,000	34,000	34,000	34,000	34,000
Other costs	34,800	35,400	36,000	36,000	34,800	34,200
Net profit/(loss)	3,200	7,100	11,000	11,000	3,200	(700)

Notes:
(1) 10% of the sales are for cash; credit sales are paid for in the month after sale.
(2) Purchases of the product are paid for in the month following purchase.
(3) Stock of the product (at cost) is expected to be:

	£
End January 2003	46,750
End February 2003	49,500
End March 2003	49,500
End April 2003	44,000
End May 2003	41,250
End June 2003	43,000.

(4) Wages are paid in the month incurred.
(5) Depreciation of £6,000 per month is included in 'other costs'. Other costs (except depreciation) are paid in the month following that in which they are incurred.
(6) Capital expenditure of £45,000 is forecast in May 2003.
(7) Balances of current asset/liability items, at the end of December 2002, are expected to be:

	£	
Stock	44,000	
Debtors	135,000	
Bank	10,600	overdrawn
Creditors	113,450	

(8) A positive cash balance of £11,750 is forecast for end March 2003.

REQUIRED

(a) Prepare a cash budget for **each** of the months **April**, **May** and **June 2003**.

(12 marks)

(b) Prepare a schedule itemising the net current assets expected at **31 May 2003**.

(4 marks)

(c) Calculate the following ratios based on the expected current assets/liabilities at **31 December 2002**:

(i) Current
(ii) Acid Test (Quick).

(4 marks)

(Total 20 marks)

QUESTION 5

A company is considering investment in a project to enable the manufacture and launch of a new product. The investment, all payable at the start of the project, would be £960,000. The project would have a life of 8 years with no terminal value. Annual profit (after depreciation) from the project is estimated to be £115,000.

Present value of £1:

Discount Rate	Year 1	2	3	4	5	6	7	8	Annuity for 8 years
8%	0.926	0.857	0.794	0.735	0.681	0.630	0.583	0.540	5.747
14%	0.877	0.769	0.675	0.592	0.519	0.456	0.400	0.351	4.639
20%	0.833	0.694	0.579	0.482	0.402	0.335	0.279	0.233	3.837

REQUIRED

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

(i) the payback period
(ii) the accounting rate of return on the average investment.

(9 marks)

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

(i) the net present value at a discount rate of 14%
(ii) the internal rate of return (to the nearest %).

(7 marks)

(c) Explain the term **sensitivity analysis** in the context of long-term decision-making.

(4 marks)

(Total 20 marks)

QUESTION 6

A company that manufactures and sells **two** products (A and B), operates an absorption costing system. Production overheads are absorbed at a pre-determined rate based on direct labour hours.

Budgeted unit selling price and costs, for **each** product for a period, were as follows:

	Product A £/unit	**Product B** £/unit
Selling price	16.00	22.00
Direct materials	5.00	6.50
Direct labour (£8.00 per hour)	4.00	6.00
Production overhead	3.00	4.50

Production quantities in the period were:

	Budget	**Actual**
Product A (units)	21,000	22,000
Product B (units)	15,000	14,500

Actual sales in the period were:

Product A	£348,800 (21,800 units)
Product B	£321,200 (14,600 units)

Opening and closing stocks of the two products are valued at the above budgeted unit costs. Actual expenditure in the period on prime costs (per unit of product) was as per budget, as were the actual direct labour hours per unit. Total production overheads incurred in the period were £132,265.

REQUIRED

(a) Calculate for the period:

(i) the total budgeted production overheads

(ii) the pre-determined production overhead absorption rate per direct labour hour.

(5 marks)

(b) Prepare a profit statement for the period showing details of sales, costs and gross profit for **each** product and in total.

(10 marks)

(c) Outline possible reasons for over- or under-absorption of production overheads, both in general and also with specific reference to the situation above.

(5 marks)

(Total 20 marks)

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