Series 4 Examination 2011

CERTIFICATE IN MANAGEMENT ACCOUNTING

Level 3

Friday 11 November

Subject Code: 3024

Time allowed: **3 hours**

INSTRUCTIONS FOR CANDIDATES

- Answer all **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.
- Begin your answer to each question on a new page.
- 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 company's budgeted profit statement for the production and sale of 25,000 units of its single product, for the next period, is as follows:

	Per unit		Total	
	£	£	£	£
Sales		42.00		1,050,000
Less: Operating costs:				
Direct material	14.40		360,000	
Direct labour	10.00		250,000	
Variable overhead	5.00		125,000	
Fixed overhead	8.19	37.59	204,750	939,750
Net profit		4.41		110,250

REQUIRED

(a) Calculate for the next period, the:

(i) budgeted break-even point (in sales revenue)

(3 marks)

(ii) budgeted margin of safety (expressed as a percentage)

(2 marks)

(iii) total sales revenue required to earn a net profit of £217,350.

(3 marks)

The company has revised its current budgets and now estimates the following cost increases for the next period:

Direct material	8.75%
Direct labour	4%
Variable overhead	6%
Fixed overhead	12%

REQUIRED

(b) Calculate for the next period, the:

(i) revised selling price per unit if the current contribution/sales ratio is maintained.

(5 marks)

(ii) total sales (in units) required to earn the budgeted net profit of £110,250 if the budgeted selling price of £42.00 per unit is maintained.

(4 marks)

(c) Describe how the break-even sales revenue can be calculated for a business with a range of products.

(3 marks)

(Total 20 marks)

QUESTION 2

A company manufactures a single product which is sold for £21 per unit. Details of the costs for the product are as follows:

Variable costs per unit:	
production	£10
selling and administration	£ 2
Annual fixed costs:	
production	£600,000
selling and administration	£156,000

Fixed production costs are absorbed on the basis of 150,000 units of production per year. All fixed costs (including selling and administration) are incurred evenly throughout the year.

Units produced, sold and in stock for Month 5 and Month 6 were:

	Month 5	**Period 6**
	Units	Units
Stock at start	–	3,000
Production	14,000	12,000
Sales	11,000	13,000
Stock at end	3,000	2,000

REQUIRED

(a) Prepare profit statements for each of Month 5 and Month 6 using:

(i) absorption costing

(9 marks)

(ii) marginal costing

(7 marks)

(b) Prepare a statement that reconciles absorption costing profit and marginal costing profit for each month as calculated in part (a).

(4 marks)

(Total 20 marks)

QUESTION 3

A company manufactures two products, **X** and **Y**, which it sells for £218 and £236 per unit, respectively. The company's budget data for the next period are as follows:

	Product X	**Product Y**
Sales (units)	5,800	8,400
Material A (kilos per unit)	3	4
Material B (kilos per unit)	2.5	1.75
Direct labour (hours per unit)	1.5	2

The standard direct material prices and the standard direct labour rate are:

Material A	£20.62 per kilo
Material B	£13.84 per kilo
Direct labour	£18.76 per hour

Production overheads are budgeted at £430,500 and are absorbed into products on the basis of direct labour hours.

The stocks of finished goods and raw materials are budgeted to be:

	Start of period	**End of period**
Product X	650 units	930 units
Product Y	1,680 units	1,020 units
Material A	9,500 kilos	6,750 units
Material B	3,360 kilos	4,640 units

REQUIRED

(a) Prepare the following budgets for the next period:

(i) production (units of each product)

(3 marks)

(ii) purchases (quantity in kilos and cost for Material B)

(4 marks)

(iii) direct labour (total hours and cost)

(3 marks)

(b) Calculate the gross profit per unit of Product X.

(4 marks)

(c) Explain each of the following budgeted methods:

(i) rolling/continuous budget
(ii) zero based budget

(6 marks)

(Total 20 marks)

QUESTION 4

A company had budgeted to produce and sell 3,000 units of its single product at a selling price of £210 per unit in a period. Details of the standard cost per unit are as follows:

			£
Direct material	3 kilos	× £22.60 per kilo	67.80
Direct labour	2.4 hours	× £15.75 per hour	37.80
Fixed production overhead	2.4 hours	× £17.25 per hour	41.40

The following is a reconciliation of the budgeted gross profit with the actual gross profit for the period:

			£	
Budgeted gross profit			189,000	
Sales and cost variances:	**Favourable**	**Adverse**		
	£	£		
Sales price	17,504			
Sales volume profit		16,695		
Direct material price	11,253			
Direct material usage		7,232		
Direct labour rate		4,707		
Direct labour efficiency	4,536			
Fixed overhead expenditure	8,815			
Fixed overhead volume		10,971		
	42,108	39,605	2,503	Favourable
Actual gross profit			191,503	

There were no stocks of raw materials, work-in-progress or finished units.

REQUIRED

(a) Calculate the following **actual figures** for the period:

(i) production and sales units (2 marks)

(ii) selling price per unit (2 marks)

(iii) direct materials purchased (2 marks)

(iv) direct material cost per kilo (2 marks)

(v) direct labour hours worked (2 marks)

(vi) direct labour rate per hour (2 marks)

(vii) fixed production overheads. (2 marks)

(b) Prepare a profit statement showing the actual sales, cost of sales and gross profit for the period. (3 marks)

(c) Explain the meaning of the **standard hour** of production. (3 marks)

(Total 20 marks)

QUESTION 5

A company is considering investing in a new machine to increase its capacity in order to manufacture a new product. The machine would cost £1,600,000 with a residual value of £120,000 after its expected useful life of five years.

The forecast for net operating cash inflows, for the product is as follows:

Year	£000
1	600
2	840
3	1,220
4	900
5	330

The operation of the new machine will require an immediate additional investment in working capital of £360,000. The working capital will be released at the end of the useful life of the machine.

If the new product is manufactured, the company will have to discontinue an existing product which makes an annual contribution of £250,000.

The company's cost of capital is 12% per annum.

Discount factors:

Year	10%	12%	15%	18%	20%
1	0.909	0.893	0.870	0.847	0.833
2	0.826	0.797	0.756	0.718	0.694
3	0.751	0.712	0.658	0.609	0.579
4	0.683	0.636	0.572	0.516	0.482
5	0.621	0.567	0.497	0.437	0.402

REQUIRED

(a) Calculate in relation to the investment in the new machine, the:

(i) net present value (10 marks)

(ii) internal rate of return (3 marks)

(iii) discounted payback period. (4 marks)

(b) Describe how a company's weighted average cost of capital is calculated. (3 marks)

(Total 20 marks)

