Series 3 Examination 2010

CERTIFICATE IN MANAGEMENT ACCOUNTING

Level 3

Tuesday 8 June

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

Company M, which makes a single product, has the following data for the past four operating periods:

	Period 4 £000	Period 5 £000	Period 6 £000	Period 7 £000
Sales revenues	342	368	405	462
Total operating costs	288	302	324	363

Total fixed costs and unit variable costs, as well as the selling price per unit, have remained constant in the past four periods.

REQUIRED

(a) Using the high-low method determine the periodic:

(i) fixed costs

(5 marks)

(ii) break-even point (in sales revenue).

(2 marks)

(b) **Calculate** for Period 8, using your answer to part (a), the:

(i) budgeted margin of safety (expressed as a percentage to one decimal place), if the total sales revenue is budgeted at £500,000

(2 marks)

(ii) total sales revenue required in order to earn a net profit of £120,000, if fixed costs increase by 8% without any change to unit variable costs or selling price.

(4 marks)

(c) Discuss the limitations of cost-profit-volume (CVP) analysis.

(7 marks)

(Total 20 marks)

QUESTION 2

A company manufactures and sells four products.

	Product D £ per unit	**Product E** £ per unit	**Product F** £ per unit	**Product G** £ per unit
Selling price	354	223	296	280
Direct material costs (at £36 per kilo)	108	63	90	117
Direct labour costs (at £16 per hour)	64	40	56	32
Variable overheads	80	50	70	40
Fixed overheads	40	25	35	20
Production and sales per period	1,800 units	2,400 units	1,500 units	2,000 units

Fixed overheads are absorbed on the basis of direct labour hours.

The company has sufficient resources to meet its production and sales requirements, except the supply of direct materials which is limited to 14,000 kilos for the coming period.

REQUIRED

(a) Prepare a production schedule that will maximise profit for the coming period and calculate the amount of the profit.

(14 marks)

(b) Explain, with an example, the meaning of the following terms used in the context of decision-making:

(i) sunk cost

(3 marks)

(ii) differential (or incremental) cost.

(3 marks)

(Total 20 marks)

QUESTION 3

A company budgeted to produce 5,000 units of its single product in Period 5 and operates a standard costing system. The following information has been extracted from the product's standard cost card:

		£ per unit
Direct labour	(2½ hours × £12.60 per hour)	31.50
Fixed production overheads	(2½ hours × £18.00 per hour)	45.00

The fixed production overheads are absorbed on the basis of direct labour hours.

The actual results for Period 5 were as follows:

Production	4,850 units
Direct labour (13,080 hours)	£160,230
Fixed production overheads	£241,650

REQUIRED

(a) **Calculate** the following variances for Period 5:

(i) direct labour rate (2 marks)

(ii) direct labour efficiency (2 marks)

(iii) fixed production overhead expenditure (2 marks)

(iv) fixed production overhead volume (2 marks)

(v) fixed production overhead capacity (2 marks)

(vi) fixed production overhead efficiency (2 marks)

(b) **Calculate** the following production control ratios for Period 5:

(i) capacity usage (2 marks)

(ii) production efficiency (2 marks)

(iii) production volume (2 marks)

(c) Demonstrate the link between the three control ratios calculated in part (b) above. (2 marks)

(Total 20 marks)

QUESTION 4

Axis Limited is preparing the financial budgets of its retail business for the next financial year (year 6). The company's summarised balance sheet at the end of Year 5 is as follows:

	£000	£000
Fixed assets (at cost)	2,200	
Accumulated depreciation	1,220	980
Current assets		
Stock	445	
Trade debtors	360	805
		1,785
Current liabilities		
Trade creditors	230	
Bank overdraft	15	245
		1,540
Capital and reserves		
Share capital		800
Reserves		340
		1,140
Long-term liability		
12% Loan stock		400
		1,540

The following information on the budgeted activities of the company for Year 6 is available:

1. Sales (all on credit) are estimated at £2,400,000 on which a gross profit of 40% will be earned. The average collection period for customers is two months.

2. Purchases will be made on credit. 20% of purchases are budgeted to be unpaid at the end of the year. The value of unsold stock at the end of the year is expected to be £565,000 at cost price.

3. Fixed assets costing £300,000 are expected to be purchased for cash, but none will be sold during the year. It is company policy to charge depreciation at the rate of 15% on the net book value of fixed assets (including those purchased during the year).

4. Fixed overhead expenses (excluding depreciation charges) are estimated to be £240,000. All fixed overhead expenses are expected to be paid as they are incurred.

5. Variable overhead expenses are estimated to be 12½% of the total sales value. £45,000 of the variable overhead expenses will be unpaid at the end of the year.

6. The interest charges on the loan stock are to be paid in the last month of the year.

7. The company does not intend to declare or pay any dividends for Year 6.

REQUIRED

Prepare the following for the company:

(a) budgeted profit statement for Year 6

(7 marks)

(b) budgeted balance sheet at the end of Year 6.

(13 marks)

(Total 20 marks)

QUESTION 5

A company considers investing in either Project X or Project Y for a period of four years. The net cash flows for the two projects is as follows:

	Project X	**Project Y**
	£000	**£000**
Year 0	(600)	(900)
Year 1	160	250
Year 2	350	440
Year 3	210	320
Year 4	120	180

Assume that net cash inflows occur at the end of the years to which they relate.

Cost of capital is 10% per annum.

Discount factors:

Year	*5%*	*10%*	*15%*	*20%*
1	0.952	0.909	0.870	0.833
2	0.907	0.826	0.756	0.694
3	0.864	0.751	0.658	0.579
4	0.823	0.683	0.572	0.482

REQUIRED

(a) **Calculate** for each of **Project X** and **Project Y** the:

(i) net present value (5 marks)

(ii) internal rate of return (6 marks)

(iii) profitability index (3 marks)

(b) Recommend, with reasons, which project should be undertaken based on the calculations of the net present values and internal rates of return in part (a).

(2 marks)

(c) Describe how risk may be incorporated into the capital investment project appraisal process.

(4 marks)

(Total 20 marks)

