Series 4 Examination 2010

CERTIFICATE IN MANAGEMENT ACCOUNTING

Level 3

Wednesday 10 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 has prepared the following estimate of costs for a contract that will take one year to complete:

		£	Notes
Material P	(9,000 kilos × £26 per kilo)	234,000	1
Material Q	(5,000 kilos × £37 per kilo)	185,000	2
Material R	(7,000 kilos × £41 per kilo)	287,000	3
Unskilled labour	(8,000 hours × £7 per hour)	56,000	4
Skilled labour	(15,000 hours × £18 per hour)	270,000	5
Supervision labour		92,000	6
Lease of machine		40,000	7
Depreciation of machinery		60,000	7
General overhead	(15,000 hours × £21.50 per hour)	322,500	8

Notes

1 Material P is in continual use and there are 3,000 kilos of material in stock, which was purchased at £26.00 per kilo. The current cost of the material is £32 per kilo

2 Material Q has not yet been ordered; its current cost is £37 per kilo.

3 Material R was purchased a few years ago at a cost of £41 per kilo, but it does not have an alternative use. If not used for the contract, the existing stock of 7,000 kilos could be sold for £28.00 per kilo. However, costs of £6,000 would be incurred in getting the material to the customer.

4 Unskilled labour is only employed when such workers are required.

5 The existing skilled workers are fully employed on various contracts, but would be willing to work overtime for the required hours at one and a quarter times their hourly pay rate. Alternatively, additional skilled labour could be hired for the duration of the contract at £21.00 per hour.

6 Supervision labour cost includes the salaries of two supervisors. The first supervisor, who is paid £42,000 per annum, is due to retire immediately, but will be willing to work specifically on the contract for another year. The second supervisor is paid £50,000 per annum for working on existing contracts. If she specifically supervises the contract, her replacement will cost £44,000 for the duration of the contract.

7 Two machines are required for the contract. The first machine was purchased four years ago at a cost of £300,000 with an annual straight-line depreciation of £60,000. The machine has no scrap value and is due to be dismantled at a cost of £5,000. However, if it is used for the contract, the dismantling cost is expected to be £8,000 when the contract is completed. The second machine would need to be leased at a cost of £40,000 for the duration of the contract.

8 General overheads are absorbed on the basis of skilled labour hours used on the contract. The variable element of general overheads is £11.60 per hour.

REQUIRED

(a) Prepare a revised estimate of costs for the contract, using a relevant cost basis.

(14 marks)

(b) Explain the meaning of the terms **opportunity cost** and **relevant cost** used in the context of decision-making.

(6 marks)

(Total 20 marks)

QUESTION 2

A company is preparing a budget for the single product which it manufactures and sells for £280 per unit. The standard costs data for each unit of the product are as follows:

Direct material	4 kilos at £27.50 per kilo
Direct labour	5 hours at £14.80 per hour
Fixed production overhead	5 hours at £8.60 per hour

Non-production overhead costs are budgeted at £12,000 per period.

The budgeted sales figures for the next four periods are:

Period 6	450 units
Period 7	350 units
Period 8	500 units
Period 9	400 units

Stocks of raw materials and finished goods at the beginning of Period 6 are:

Raw materials	1,950 kilos
Finished goods	420 units

The company has an end of period stocking policy of holding 90% of the following period's budgeted sales units and 110% of the following period's raw materials required for production. There are no stocks of work-in-progress at the end of any period.

REQUIRED

(a) Prepare the following budgets for each of Period 6 and Period 7:

(i) sales (£)

(2 marks)

(ii) production (units)

(4 marks)

(iii) materials purchases (kilos and £)

(6 marks)

(iv) direct labour (hours and £)

(3 marks)

(b) Prepare a combined profit budget for Periods 6 and 7.

(5 marks)

(Total 20 marks)

QUESTION 3

A company manufactures a single product which sells for £475 per unit. The product's standard cost card for Period 7 contains the following information:

		£ per unit
Direct material	(3.25 kilos × £48.00 per kilo)	156.00
Direct labour	(7.5 hours × £16.50 per hour)	123.75
Fixed production overhead	(7.5 hours × £9.90 per hour)	74.25

Actual results for the period are as follows:

Production and sales	5,560 units
Sales	£2,689,372
Direct material costs (16,124 kilos)	£830,386
Direct labour costs	£650,520
Fixed production overhead	£388,840

The following variances were extracted from the company's control records for Period 7:

Sales volume profit	£29,040 Adverse
Direct labour rate	£10,008 Favourable
Direct labour efficiency	£27,522 Favourable
Fixed overhead expenditure	£41,810 Favourable
Fixed overhead volume	£17,820 Adverse

REQUIRED

(a) Calculate the following variances for Period 7:

(i) sales price

(2 marks)

(ii) direct material price

(2 marks)

(iii) direct material usage.

(3 marks)

(b) Calculate the following for Period 7:

(i) budgeted production units

(3 marks)

(ii) actual direct labour hours worked

(4 marks)

(iii) average actual direct labour rate per hour

(2 marks)

(c) Define the terms: **ideal standard** and **attainable standard**.

(4 marks)

(Total 20 marks)

QUESTION 4

A company is considering investing in new plant and equipment to introduce a new product with an estimated lifespan of 5 years. The plant and equipment is expected to cost £2,150,000 with a residual value of £250,000 after five years.

The sales forecast for the product is as follows:

Year	**£000**
1	1,200
2	1,680
3	3,040
4	2,560
5	1,920

The product is expected to have a constant contribution/sales ratio of 37.5% and budgeted annual incremental fixed costs of £160,000 (excluding straight-line depreciation of new plant and equipment).

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

The company's cost of capital is 15% 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 new plant and equipment, the:

(i) accounting rate of return (using the average investment value);

(8 marks)

(ii) net present value;

(6 marks)

(iii) internal rate of return.

(3 marks)

(b) Advise the company on whether the investment in new plant and equipment is worthwhile, on the basis of the net present value and internal rate of return in part (a).

(3 marks)

(Total 20 marks)

QUESTION 5

Investment Centre A operates as a retailing division in a company. The investment centre's financial information for the past two years is presented as follows:

	Year 4	Year 3
	£000	£000
Fixed assets (net book value)	399	267
Current assets	403	278
Current liabilities	167	112
Stock of finished goods	202	135
Trade debtors	170	109
Sales	765	650
Cost of sales	536	455
Net profit	131	119

All sales were made on credit terms, and a constant gross profit margin of 30% was earned throughout the two-year period.

Assume that 1 year = 365 days

REQUIRED

(a) Calculate, in relation to Investment Centre A, the following ratios for each of Year 4 and Year 3:

(i) net profit to sales (%)
(2 marks)

(ii) net asset turnover (number of times)
(2 marks)

(iii) return on capital employed (%)
(2 marks)

(iv) stock turnover (number of times)
(2 marks)

(v) debtors payment period (rounded to whole days)
(2 marks)

(vi) current
(2 marks)

(vii) acid test (quick)
(2 marks)

(b) Using the ratios calculated in part (a), comment on the investment centre's performance in terms of its profitability, asset utilisation and liquidity over the two-year period.
(6 marks)

(Total 20 marks)

