Series 3 Examination 2009

CERTIFICATE IN MANAGEMENT ACCOUNTING

Level 3

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

	Period 6	Period 7	Period 8	Period 9
Production and sales (units)	14,500	12,400	16,800	15,250
Total operating costs	£196,350	£187,500	£241,500	£251,850
General price-level index	110	125	138	146

REQUIRED

(a) Use the high-low method to:

(i) analyse the total operating costs into a variable cost per unit and total fixed costs per period at the Period 6 general price-level index.

(5 marks)

(ii) estimate the total operating costs expected in Period 10 if 18,120 units are produced and sold and the general price-level index is 155.

(3 marks)

Company B has prepared a budget for the coming period when it plans to make and sell two types of products. The following details are provided:

	Product X	Product Y
	£ per unit	£ per unit
Selling price	20	45
Variable operating costs	15	20

Estimated fixed costs per period £468,000

The company expects to sell 3 units of Product X for every unit of Product Y in the coming period.

REQUIRED

(b) Calculate the number of units of Product X and Product Y that are required to be sold by the company in order to earn a profit of £260,000 in the coming period.

(7 marks)

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

(5 marks)

(Total 20 marks)

QUESTION 2

A company is considering whether to accept a contract to manufacture 4,000 units of a special type of product at a selling price of £250 per unit. The following information is provided:

Direct material

	Contract Requirement	Current Stockholding
Material W	7,500 kg	2,500 kg at a cost of £30 per kg
Material X	3,200 kg	4,000 kg at a cost of £40.25 per kg
Material Y	6,000 kg	6,000 kg at a cost of £25.50 per kg
Material Z	5,000 kg	5,000 kg at a cost of £37.40 per kg

Material W can only be used to manufacture the special type of product and, if the contract is not accepted, the current stock would be sold immediately at a price of £22 per kg. The current replacement cost is £35 per kg.

Material X, which currently costs £45 per kg, is regularly used in the manufacture of other products.

The current stock of Material Y was purchased two years ago. If not used on the contract, it can either be sold now for £12 per kg or be reworked at a cost of £15.75 per kg and then used as a substitute for Material F which presently costs £32 per kg.

Material Z is specifically used for the special type of product and the company has purchased the quantity required in anticipation of the contract. If the contract is not accepted, then the material would be sold back to the suppliers at half of its original cost.

Direct labour

	Contract Requirement
Skilled labour	12,000 hours at £16 (basic rate) per hour
Semi-skilled labour	6,000 hours at £10 (basic rate) per hour

Additional skilled labour cannot be recruited and the existing skilled workers are currently working at full capacity. If the contract is accepted, skilled workers would be willing to work 4,000 hours of overtime at one and a quarter times their hourly basic rate. The remainder of the skilled labour hours required would be obtained by reducing the production of another product which currently earns a contribution of £9 per skilled labour hour.

Semi-skilled labour is currently under-utilised and is being paid for sufficient hours to be able to complete the contract. However, the company expects to have to spend £30,000 on training semi-skilled workers to manufacture the special type of product. If the contract is not accepted, semi-skilled workers would be made redundant immediately at a cost of £45,000.

Overhead expenses

The current overhead expenses budgets include the following:

1. Additional variable overhead costs of £180,000 for carrying out the contract.
2. Depreciation charge of £80,000 per annum for the special machine to be used on the contract. This machine was purchased three years ago for £400,000 with an estimated life of 5 years. There is now no other use for the machine if it is not used on the contract. It would either be sold immediately for £15,000 or, after completion of the contract, for £5,000.

REQUIRED

(a) Prepare suitable calculations, using a relevant cost basis, to advise the company whether or not to accept the contract.

(15 marks)

(b) Briefly explain the meaning of the terms: **avoidable cost** and **sunk cost**. Give one example of each from the above information.

(5 marks)

(Total 20 marks)

QUESTION 3

Universal Retail Stores Ltd is budgeting for its operations for the coming months. Details are provided as follows:

1. Sales for May 2009 were £80,000 and these are expected to increase by 10% each month from June 2009 onwards. All sales are made on credit terms. Customers are expected to pay for 60% of sales in the month of sale, 35% in the month following sale and the balance is considered to be bad debts.

2. Gross profit is budgeted at 30% of sales.

3. Since April 2009, it has been the policy with goods for resale to have a stock level at the end of each month sufficient to cover 25% of the following month's sales. This policy will be maintained during the budget period and purchases will be made as required during each month. All purchases will be made on credit and paid for in the month following purchase.

4. Administrative expenses are budgeted at £11,000 per month, including £2,500 for depreciation. Payments are to be made in the month in which the expenses are incurred.

5. Selling and distribution expenses are estimated to be 7½% of monthly sales value. Payments for these expenses are to be made one month in arrears.

6. The budgeted bank balance on 1 June 2009 is £15,750 overdrawn. Other than the balance in its bank account, the company does not intend to hold any cash balances on 1 June 2009.

REQUIRED

Prepare a cash budget for the company for each of the three months June 2009, July 2009 and August 2009.

(Total 20 marks)

QUESTION 4

REQUIRED

(a) Explain the difference between an **investment centre** and a **profit centre**. (5 marks)

Company M is comprised of two divisions. Division R manufactures a single product which it sells to Division T and, also, to external customers.

The following information relates to the budgeted operations of Division R for the coming period:

Divisional investment	£1,500,000
Sales	20,000 units at a selling price of £80 per unit
Variable costs	£57.50 per unit
Fixed costs	£210,000

The cost of capital for Company M is 12½% per annum.

REQUIRED

(b) Calculate for Division R for the coming period, the expected:

(i) return on capital employed (ROCE) (5 marks)

(ii) residual income (RI). (3 marks)

Division R's budgeted sales volume includes 5,000 units which it expects to sell to Division T. However, Division T has received an offer from an external company to supply the 5,000 units at a price of £72.50 per unit. If Division R does not meet the £72.50 price, Division T will buy from the external company. Division R expects to save £60,000 in fixed costs if it does not sell the 5,000 units to Division T.

REQUIRED

(c) If Division R fails to meet the £72.50 price and loses the sales to Division T, calculate:

(i) The effect on Division R's budgeted profit. (3 marks)

(ii) The effect on Company M's total profit. (4 marks)

(Total 20 marks)

QUESTION 5

A company has completed the evaluation of four investment projects by using a 15% discount rate to calculate their net present values. The following partial information about the projects is provided:

	Project A £000	Project B £000	Project C £000	Project D £000
Initial cost	1,100	Missing figure	1,440	960
Net present value	Missing figure	129.4	154.6	136.6
Annual net cash flows:				
Year 1	500	400	550	480
Year 2	600	400	700	550
Year 3	506	400	772	350
Disposal values at end of Year 3	44	100	120	50

The company's depreciation policy is to write off the initial cost of investment using the straight-line method. It is assumed that net cash flows occur at the end of the years to which they relate.

Discount factors:	*Year*	*10%*	*15%*	*20%*	*25%*
	1	0.909	0.870	0.833	0.800
	2	0.826	0.756	0.694	0.640
	3	0.751	0.658	0.579	0.512
		2.486	2.284	2.106	1.952

REQUIRED

(a) Calculate for **Project A**, the:

(i) net present value (4 marks)

(ii) internal rate of return. (3 marks)

(b) Calculate the:

(i) initial cost of **Project B** (4 marks)

(ii) accounting rate of return for **Project C** (using average capital investment) (5 marks)

(iii) discounted payback period for **Project D**. (4 marks)

(Total 20 marks)

