

Series 3 Examination 2009

COST ACCOUNTING

Level 3

Friday 5 June

Subject Code: 3017

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 answers must be correctly numbered but need not be in numerical order.
- Workings must be shown.
- Presentation is important.
- 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 uses three different raw materials (RM1, RM2 & RM3) which it obtains from an outside supplier. The following information is provided relating to each raw material:

Raw Material RM1

Balance in stores is currently 250 kg
Stock on order 1000 kg
Allocated stock is 350 kg

Raw Material RM2

Daily usage varies between 240 and 360 kg
Lead time for delivery varies between 15 and 21 days.
Order quantity is 10,000 kg

Raw Material RM3

Order quantity 1,000 kg
Purchase price £2.00 per kg
Monthly usage 1,500 kg
Safety (buffer) stock 1,000 kg
Ordering costs £250 per order
Stock holding costs are 20% of the average stockholding per annum.
The supplier has offered a discount off the purchase price if the order quantity is increased. Details are as follows:

Order Quantity	Discount
1,000 kg	-
1,500 kg	5%
3,000 kg	7.5%

REQUIRED

- (a) For raw material RM1 calculate the free stock currently available. (2 marks)
- (b) For raw material RM2 calculate:
- (i) the reorder level
 - (ii) the minimum and maximum stock control levels. (6 marks)
- (c) For raw material RM3 determine the order quantity that would minimise the total annual costs. (8 marks)
- (d) Briefly explain the meaning of:
- (i) Re-order level
 - (ii) Allocated stock
 - (iii) Free stock. (4 marks)

(Total 20 marks)

QUESTION 2

Triple Products Ltd manufactures three products Hay, Bee and Cee. At present the company uses a traditional absorption costing system to establish the costs of production. Budgeted production data for the next period is as follows:

	Hay	Bee	Cee
Production output (units)	1,000	800	400
Material per unit at £5 per kg	5kg	10kg	7.5kg
Labour per unit at £9 hour	2hrs	2hrs	3hrs
Machine time per unit	2hrs	1.5hrs	2hrs

Variable production overheads are budgeted to be absorbed at £3.50 per labour hour.

Fixed production overheads for the period are budgeted to be £66,000, absorbed on a machine hour basis.

The company is considering the introduction of an activity based costing system.

Further investigation has revealed the following activities and related overhead costs:

Activities	Costs (£)
Product inspection	24,000
Machine set-up	16,000
Machine maintenance	12,000
Packing and despatch	6,000
Material handling	<u>8,000</u>
	<u>66,000</u>

Other information:

- 1 Budgeted orders for next period: Hay 10 orders; Bee and Cee 5 orders each. Each order is expected to require one machine set up and two inspections.
- 2 Machine maintenance is carried out regularly based on a predetermined number of machine running hours.
- 3 Each product is packed and despatched in crates containing the following number of products per crate: Hay 50 units, Bee 25 units and Cee 50 units. The number of crates used influences product despatch costs.
- 4 Material handling costs are influenced by the quantity of material used.

REQUIRED

(a) Calculate the production cost of one unit of each product using:

- (i) Traditional absorption costing
- (ii) Activity based costing.

(16 marks)

(b) Explain the meaning of the term cost driver. Your explanation should include two examples to illustrate your answer.

(4 marks)

(Total 20 marks)

QUESTION 3

James is planning to start a new business, commencing January year 10, by investing £10,000 of his own capital and obtaining a bank loan of £20,000. His bank manager has asked him to prepare a cash budget as part of his business plan.

James has used a market research survey to evaluate probable sales and has produced the following budgeted data:

All sales will be made at £15 per unit. James anticipates 20% cash sales with remaining customers being allowed one month credit. Sales units are estimated to be as follows:

January	0	July	2,500
February	1,800	August	2,700
March	2,000	September	2,800
April	2,000	October	2,500
May	2,200	November	2,200
June	2,400	December	2,000
		January (year 11)	2,200

It is estimated that 2% of credit sales will be bad debts.

James has also provided the following information:

All units will be produced in the month before they are required for sale.

Material used for production will be purchased in the month they are used at a cost of £8 per unit. James anticipates his first four months' purchases will be for cash with the supplier allowing one months credit on purchases thereafter.

Direct labour will be paid at a rate of £4 per unit of finished product payable in the month of production. A bonus payment of £1 per unit will be paid for all additional monthly production in excess of 2,000 units. This bonus will be paid in the month following the production.

Overheads will amount to £4,000 per month and are paid in the month in which they are incurred.

Equipment costing £20,000 will be purchased and paid for in January using the bank loan of £20,000. The loan will be repaid over 4 years with an annual interest charge of £1,000. Repayments will be made on a quarterly basis in equal instalments commencing in March. The equipment will be depreciated over the term of the loan. The depreciation charge has been included in the overheads.

REQUIRED

- (a) Prepare the cash budget, in tabular format, for submission to the bank for each of the following three month periods:

January to March
April to June
July to September
October to December.

(16 marks)

- (b) State two advantages of having a cash budget.

(4 marks)

(Total 20 marks)

QUESTION 4

A company which manufactures and sells four products (A,B,C and D), has presented the following budget details for year 10.

	A	B	C	D
Sales (units per year)	2,500	2,000	1,000	600
Selling price (per unit)	£10	£12	£16	£25
Variable cost (per unit)	£6	£6	£10	£16

Fixed costs £16,700 for the year.

REQUIRED

- (a) Calculate the contribution to sales ratio (to the nearest £) for each product and for the company overall. (5 marks)
- (b) Calculate the budgeted profit for year 10. (2 marks)
- (c) Calculate the break-even revenue based on the budgeted sales mix. (3 marks)
- (d) Draw a contribution break-even chart for the budgeted sales mix. Indicate clearly on the chart the break-even revenue, the margin of safety and the contribution area. (8 marks)
- (e) Calculate the sales revenue required (to the nearest £ hundred), based on the budgeted sales mix, to achieve a net profit of £20,000. (2 marks)

(Total 20 marks)

QUESTION 5

Sole Products Ltd, which uses a standard costing system, produces a monthly reconciliation statement showing the variances between standard production costs and actual production costs. The following is the statement for May year 9.

	£	£
Standard cost of production		44,200
Variations:		
Material price	100 Adv	
Material usage	600 Fav	
Labour rate	250 Adv	
Labour efficiency	1,000 Fav	
Idle time (machine breakdown)	500 Adv	
Fixed overhead expenditure	1,500 Adv	
Fixed overhead volume	1,200 Fav	
		<u>450 Fav</u>
Actual cost of production		<u>43,750</u>
Actual production for the month	650 units	

The standard direct costs for one unit of production are:

Direct material	4kg at £6 per kg
Direct labour	2 hours at £10 per hour.

Fixed overheads are absorbed at a rate of £12 per direct labour hour.

REQUIRED

(a) Calculate for the month:

- (i) The actual quantity of direct materials used and the total actual direct material cost (assume usage quantity equals purchased quantity)
- (ii) The actual labour hours worked, the idle time due to machine breakdown and the total direct labour cost
- (iii) The actual fixed production overhead incurred
- (iv) The budgeted production units.

(16 marks)

(b) Describe the possible reasons for the variances on:

- (i) Direct material
- (ii) Direct labour.

(4 marks)

(Total 20 marks)