

Series 4 Examination 2011

COST ACCOUNTING

Level 3

Tuesday 8 November

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

Cut Price Woods manufactures fence posts from second hand timbers. Firewood is generated as a by-product from the process.

Customers' requirements for the next two periods are 6,800 and 5,200 fence posts respectively. The following information is available:

Manufacturing

- (1) Each length of timber is cut into four units
- (2) All units are inspected
- (3) A rejection rate of 20% is expected
- (4) Acceptable units are coated in a preservative and sold as fence posts
- (5) Rejected units are sold as fire wood.

Stock Holding

- (6) A stock of finished fence posts will be maintained, at the end of each period, at 25% of the estimated sales for the following period
- (7) Second-hand timbers are ordered in quantities of 1,200 units at a reorder level of 400 units. Delivery is expected the next day
- (8) Stock levels at the start of first period:

Second-hand timbers	400 units
Finished fence posts	1,700 units.

Costs

- (9) Second-hand timbers £4 per unit (excluding delivery costs)
- (10) Preservative £20 per 100 fence posts
- (11) Direct labour £2.50 per fence post
- (12) Fixed overheads £7,680 per period
(Overheads are absorbed using a rate, recalculated each period, per fence post manufactured)
- (13) Second-hand timbers are delivered at a cost of £600 per 1,200 units
- (14) Firewood is sold at £0.50 per unit. The revenue generated is used to reduce the cost of fence posts.

REQUIRED

Calculate:

- (a) The total number of second-hand timbers required for manufacturing the customers' requirements for the first period. (4 marks)
- (b) The stock value (£'s) at the end of the first period for both:
 - (i) second-hand timbers
 - (ii) finished fence posts.The company uses the FIFO method of pricing stock issues. (14 marks)
- (c) The revenue, from the sale of firewood in the first period, if all rejected units are sold. (2 marks)

(Total 20 marks)

QUESTION 2

Comfort Travel Ltd is a transport company operating six passenger vehicles. The business, located in rented premises, operates **Type L** and **Type M** vehicles and employs drivers contracted from an agency on the basis of individual jobs.

At present the company uses a traditional absorption costing system based on costs per vehicle/km. to establish the costs of operation. Budgeted operational data for the next period, for each vehicle type, is as follows:

	Type L	Type M
Agency driver costs (£)	20,000	6,000
Number of travelling passengers	8,400	1,600
Km per vehicle	16,000	12,000

The following additional information is provided for each vehicle type:

Vehicle data	Type L	Type M
Purchase price per vehicle (£)	80,000	16,000
Number of vehicles	4	2
Number of seats per vehicle	45	12

Budgeted operational overheads for the period, not including agency driver costs, are £44,000 absorbed on a rate per kilometre.

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

Activities	Costs (£)
Fuel	22,000
Vehicle insurance	2,816
Vehicle cleaning	1,632
Servicing	3,520
Road fund licence	1,200
Depreciation	5,632
Administration	5,400
Rent	<u>1,800</u>
	<u>44,000</u>

Other information

- (i) Vehicle servicing is carried out regularly based on a predetermined number of kilometres completed
- (ii) Fuel costs are influenced by the number of kilometres completed
- (iii) Cleaning costs are influenced by the number of seats on the vehicles
- (iv) Vehicle insurance and depreciation are influenced by the purchase price of the vehicles.
- (v) Road fund licence costs are influenced by the number of vehicles in operation.
- (vi) Administration costs are influenced by the number of travelling passengers
- (vii) Rent is influenced by the number of parking bays required. Each vehicle **L** requires two bays for parking whereas each vehicle **M** only requires one.

REQUIRED

Calculate the budgeted average operational cost per vehicle for the period, for each type of vehicle, using:

- (a) Traditional absorption costing (5 marks)
- (b) Activity based costing. (15 marks)

(Total 20 marks)

QUESTION 3

Makit Ltd, which produces a single component for the motor industry, has just completed its first year of trading. The summary profit and loss account for the year is set out below:

	£	£
Sales (20,000 units)		1,280,000
Direct Costs		
Direct material	360,000	
Direct labour	320,000	
Direct expenses	80,000	
Overheads		
Production	200,000	
Administration	160,000	
Selling	181,000	<u>1,301,000</u>
Net Loss		<u>21,000</u>

The following information is available:

- (i) all of the direct costs are variable with production
- (ii) the production overhead figure includes £80,000 fixed costs. The remaining production overheads vary with production
- (iii) all of the administration overheads are fixed
- (iv) variable selling overheads are incurred at the rate of £6 per unit. The remaining selling overheads are fixed.

REQUIRED

- (a) The break-even point in units and sales value. (7 marks)
- (b) The profit that would have been earned from the sale of 24,000 units. (2 marks)
- (c) The number of units needed to be sold to achieve a profit of £14,000. (2 marks)

The company has set a profit objective of £24,000 for year 2. Two suggestions have been made as to how this profit could be achieved.

Suggestion 1:

Reduce the selling price by £3 per unit and use a less expensive material that would reduce the direct material cost by £2 per unit

Suggestion 2:

Increase the selling price by £4 and increase advertising expenditure by £75,000
In addition the use a less expensive material that would reduce the material cost by £2 per unit.

All other fixed costs and unit variable costs will remain unchanged for year 2.

REQUIRED

- (d) For each suggestion, calculate how many units need to be sold to achieve the profit objective of £24,000. (9 marks)

(Total 20 marks)

QUESTION 4

Sole Products Ltd manufactures and sells a single product. Due to a fall in sales demand the company has been operating some way below maximum capacity. The company has prepared the following report, for the year just ending, which indicates that demand is now increasing. Management of the company, however, is concerned that the report also indicates a large adverse cost variance.

	Budget	Actual	Variance
Production/Sales (units)	10,500	12,000	1,500 F
Sales revenue (£)	<u>126,000</u>	<u>142,800</u>	<u>16,800 F</u>
Direct material (£)	52,500	57,000	4,500 A
Direct labour (£)	31,500	33,600	2,100 A
Production overheads (£)	26,000	28,000	2,000 A
Selling and distribution costs (£)	10,200	10,300	100 A
Administration costs (£)	<u>4,200</u>	<u>4,600</u>	<u>400 A</u>
Total costs (£)	124,400	133,500	9,100 A
Profit (£)	1,600	9,300	7,700 F

The following points have been revealed concerning the budget:

- (i) production overheads are £33,000 at the maximum annual capacity of 14,000 units
- (ii) selling and distribution costs include a fixed element of £6,000
- (iii) administration costs are fixed.

REQUIRED

- (a) Briefly explain the main differences between a flexible and a fixed budget. (4 marks)
- (b) Prepare a revised report for the year just ended, in the above format, using a flexed budget. (12 marks)
- (c) State two possible reasons for each of the direct materials and direct labour costs variances. (4 marks)

(Total 20 marks)

QUESTION 5

Mix and Match Ltd uses a batch production method to produce its single product by combining two materials Tee and Pee. The company has budgeted for a material mix ratio of 80:20 for Tee and Pee respectively.

The following information relates to each batch:

Direct material input	200 kg
Material Tee standard price	£1.50 per kg
Material Pee standard price	£3.00 per kg

The standard production specification states that a 90% yield of product is expected.

The waste generated has no value.

Actual results for month 10 were as follows:

Output	1,890 kg	
Material Tee	1,140 kg	£1,610
Material Pee	860 kg	£2,780

There is no stock of raw material

REQUIRED

- (a) Calculate, for month 10, the following variances:
- (i) material price for each material and in total
 - (ii) material mix for each material and in total
 - (iii) material yield in total.
- (12 marks)
- (b) Explain the meaning of:
- (i) material mix variance
 - (ii) material yield variance.
- (4 marks)
- (c) Calculate the total material usage variance and reconcile this with the appropriate variances calculated in part (a).
- (4 marks)
- (Total 20 marks)**