

Cost Accounting

ASE3017

Level 3

Tuesday 6 November 2012

Time allowed: 3 hours

Information

- There are 5 questions in this examination.
 - Total marks available: 100
 - All questions carry equal marks.
 - Please ensure your answers are written clearly, or marks may be lost.
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Instructions

- Do NOT open this paper until you are told to do so by the supervisor.
 - Answer **all questions**.
 - Write your answers in blue or black ink/ballpoint. You can only use pencil 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.
 - 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.
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QUESTION 1

Dual Ltd manufactures two products (Product Tee and Product Pee). Each product contains three different raw materials which are mixed together in the manufacturing process.

The company have provided the following budgeted information for year 12.

	Product Tee	Product Pee
Product Sales (units)	530	1,120
Standard raw material requirement per unit		
Raw material: 01 (at £8 per kg)	3kg	4kg
02 (at £10 per kg)	2kg	1kg
03 (at £6 per kg)	2kg	2kg
Production rejection rate	10%	5%

Production is spread evenly over the year. All production rejects occur after inspection, at the end of production, and are valued and disposed of, for income of £20 per unit.

It is company policy to purchase sufficient raw materials at the beginning of each month, to meet their month's production requirements.

Stocks of both finished products, by the end of the year, are planned to be 25% above those at the start of the year.

	Tee	Pee
Stock of finished products at start of year (units)	40	80

It is also company policy to maintain the following raw material minimum stock control levels.

Raw material: 01	100 kg
02	40 kg
03	50 kg

REQUIRED

- (a) Calculate for year 12:
- (i) The production budget for each product (units). (3 marks)
 - (ii) The income generated by the disposal of rejects. (2 marks)
 - (iii) The material requirement budget for each raw material (kg). (6 marks)
 - (iv) The average stock investment for each raw material held during each month. (6 marks)
- (b) Explain the term principal budget factor. (3 marks)

(Total 20 marks)

QUESTION 2

Truemix Ltd uses a process system in department A, which jointly produces its two main products (Products Delta and Felta) and a by-product Gamma.

All three products require further processing before sale.

Information regarding the joint products for the month of November is as follows:

- (1) 10,000 tonnes of raw material, at a cost of £50 per tonne, were introduced into the process.
- (2) There is a normal loss allowance of 2% of input.
Process losses are expected to be disposed of at a rate of £6 per tonne.
- (3) Conversion costs were:

Variable	£8 per tonne of raw material introduced
Fixed	£120,000 per month
- (4) Output for the month was:

Delta	6,000 tonnes
Felta	3,000 tonnes
Gamma	800 tonnes
- (5) Further processing costs per tonne were:

Delta	£10
Felta	£12
Gamma	£2
- (6) The final selling prices per tonne of the products were:

Delta	£100
Felta	£112
Gamma	£35
- (7) 400 tonnes of Gamma were used without any further processing in another department as a substitute for a material, which otherwise would have cost £40 per tonne to purchase.
- (8) All production is sold during the month.

REQUIRED

- (a) Prepare a process account, for the month of November, using the Net Sales method of joint cost apportionment. (11 marks)
- (b) Prepare a profit statement showing the profit, in total and for each of the main products. (5 marks)
- (c) State the meaning of, and explain the costing treatment of the following:
 - (i) joint products
 - (ii) by-products(4 marks)

(Total 20 marks)

QUESTION 3

Sole products manufacture and distribute a single product.

The company, which intends to maintain its unit product sales price for the current year, has budgeted to sell 15,000 units.

Sales revenue of £1,200,000 is expected.

Fixed overheads are forecasted at £120,000 for the year.

The variable costs per unit are as follows:

Direct materials	£40.00
Direct labour	£12.00
Variable overheads	£8.00

REQUIRED

- (a) Calculate for the current year the:
- (i) contribution/sales ratio
 - (ii) break-even point in sales revenue and units
 - (iii) margin of safety as a percentage of sales
 - (iv) budgeted profit.

(8 marks)

The following changes in cost are expected in the following year:

Raw material price to increase by 5% per unit
Direct wage rate to increase by 3% per unit
Variable overheads to increase by 8% per unit
Fixed overheads to increase by £16,000

REQUIRED

- (b) Calculate for the following year:
- (i) A new selling price that maintains the current year's contribution/sales ratio
 - (ii) The sales volume required to maintain the current year's margin of safety if the current selling price per unit remains unchanged
 - (iii) The sales volume required to maintain the current year's profit if the current selling price per unit remains the same.

(12 marks)

(Total 20 marks)

QUESTION 4

Makit Ltd maintains a cost ledger which is kept separate to the financial ledger.
At the beginning of month 10, the following balances remained in the cost ledger.

	£000	£000
Raw Material Control Account	60	
Finished Goods Control Account	80	
Work in Progress Control Account	50	
Production Overhead Control Account (over absorbed)		5
Financial Ledger Control Account	<u> </u>	<u>185</u>
	<u>190</u>	<u>190</u>

During Month 10 the following transactions took place

	£000
Raw material purchases	110
Total factory wages	100
Indirect production expenses	75
Sales	400

At the end of Month 10 the following stocks, valued at cost, were recorded.

Raw materials	£50,000
Work in progress	£47,000
Finished goods	£100,000

NOTES

- (1) 10% of raw material issues from stores are indirect
- (2) 90% of factory wages are direct labour
- (3) Factory overheads are absorbed at the rate of 110% of the direct labour wages.

REQUIRED

- (a) Record the above transactions in the cost ledger accounts for month 2
(16 marks)
- (b) Distinguish between integrated and non-integrated accounting systems.
(4 marks)

(Total 20 marks)

QUESTION 5

Travel Far Ltd is a transport company operating four, new, identical large goods vehicles. The business, located in rented premises, employs drivers contracted from an agency on an hourly basis.

The company uses a traditional absorption costing system for its operational overheads, based on costs per vehicle/KM, and its office overheads based on costs per contracted job.

The company has produced the following budgeted data and information regarding the business for year 11.

Vehicle Data

Purchase price per vehicle	£80,000
Trade in value per vehicle (after 5 years)	£12,000
Each vehicle is budgeted to complete 48,000 km per year.	
120 contracted jobs, involving all 4 vehicles, have been budgeted for.	

Operational Overheads.

Road fund licence (per vehicle per year)	£800
Insurance (per vehicle per year)	£1,600
Servicing (every 16,000 km per vehicle)	£400 per service
Tyres (Ten per vehicle renewed every 48,000km)	£250 per tyre
Depreciation is charged at 20% annually, in equal instalments, on the purchase price of each vehicle less the cost of tyres and less its trade in value.	

Office Overheads

Rent	£16,000 per year
Insurance	£12,000 per year
Administration	£20,000 per year

Budgeted Operating Data

Agency drivers wages	£12 per hour
Driver time per vehicle per year	1,920 hours
Fuel consumption (at 1 litre per 4km)	12,000 litres per vehicle.
Fuel cost (at £1.40 per litre)	£16,800 per vehicle

REQUIRED

- (a) Calculate, for year 11, the predetermined overhead absorption rate for the:
- (i) Operational Overheads (per KM per vehicle)
 - (ii) Office Overheads (per contracted job).

(5 marks)

The company monitors its costs on a monthly basis and the following budgeted and actual results were recorded for month 10, year 11.

Budgeted

Contracted jobs	10
Agency driver time	640 hours
Total vehicle distance	16,000 km

Actual

Jobs completed	10
Driver time	600 hours
Agency drivers wage	£7,500
Total vehicle distance covered	16,400 km
Fuel consumed	4,200 litres
Fuel cost	£5,460

QUESTION 5 CONTINUED

REQUIRED

- (b) Produce a budgeted cost statement for:
(i) Year 11
(ii) Month 10, Year 11.

(5 marks)

Calculate for month 10 year 11:

- (c) (i) the material (fuel) price variance
(ii) the material (fuel) usage variance.

(3 marks)

- (d) (i) the labour (driver) rate variance
(ii) the labour (driver) efficiency variance.

(3 marks)

- (e) based on your calculations in (c) and (d) above, suggest a possible reason why each of the variances above has occurred.

(4 marks)

(Total 20 marks)