Cost Accounting

ASE3017

Level 3

Tuesday 4 June 2013

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.

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.

QUESTION 1

Singular Ltd has budgeted to use 12,000 units of component C1 in its production department during the forthcoming year. Production will be distributed uniformly through the year.

The following information is available regarding component C1:

Cost of component	£12 each (before discount)
Ordering costs	£250 per order
Stock holding costs	12.5% of the components cost

The component can be purchased in order sizes of 1,000, 2,000, 4,000, 6,000 or 12,000 units.
No buffer (safety) stock will be kept.

REQUIRED

(a) Produce a table showing the total annual ordering and stock holding costs of the component for each order size, listed above, assuming no discount is received from the basic price and identify the optimum order size.

(6 marks)

(b) Verify your answer to part (a) by using the Economic Order Quantity formula.

(4 marks)

(c) Give two examples for each of the following:

(i) Stock holding costs
(ii) Ordering costs.

(4 marks)

Assume that the supplier has offered the following quantity discounts.

Order size	Discount from the basic £12 per unit
0 – 3,999	No discount
4,000 – 11,999	5% discount
12,000 and over	7.5% discount

REQUIRED

(d) Advise the company on the order size that minimises the total annual cost if the quantity discounts are available. Support your advice with calculations.

(6 marks)

(Total 20 marks)

QUESTION 2

Twin Products Ltd produces two products Tee and Pee. Information regarding the sales and production of these two products for year 13 is listed below:

	Tee	**Pee**
Budgeted production and sales for the year	20,000 units	30,000 units
Selling price per unit	£120	£200
Standard direct costs per unit:		
Direct materials @ £5 per kg	8 kg	10 kg
Direct labour @ £10 per hour	4 hours	6 hours

Production overheads:
Variable overheads are absorbed at a rate of £5 per unit of product produced.
Budgeted fixed production overheads are £650,000 for the year incurred evenly and absorbed at a predetermined rate based on direct labour hours.

Actual production and sales for the first two quarters of year 13 are as follows:

Product	**Tee**	**Pee**
1st Quarter		
Opening stock	500 units	1,000 units
Sales	6,000 units	7,000 units
Production	6,500 units	6,600 units
2nd Quarter		
Sales	5,000 units	8,000 units
Production	4,400 units	8,200 units

Unit selling prices, direct costs and variable overheads, were as budget.
Actual fixed overheads in each quarter, were also as budget.

REQUIRED

(a) Prepare profit statements for the 2nd quarter of year 13 using:

(i) Absorption costing
(ii) Marginal costing.

(15 marks)

(b) Briefly explain the reasons why the total profits achieved under each method are different and calculate the reconciliation of this difference.

(5 marks)

(Total 20 marks)

QUESTION 3

Sole Products Ltd plans to sell 8,000 units of its single product in a period at a selling price of £20 per unit. Fixed overheads and net profit are expected to be £30,000 and £18,000 respectively for the period using the existing process.

The company is considering a change to its production process, which would increase the fixed overheads by £18,000 in the period and reduce the variable costs to £12.00 per unit. The selling price will remain constant regardless of production process.

(a) Calculate, for the planned output, the break-even points (in units) and the margins of safety (as a percentage of the sales) for:

(i) the current method
(ii) the proposed changed method.

(5 marks)

(b) Advise management, using supporting calculations, whether the changed production process is more profitable than the existing process at the planned output.

(3 marks)

(c) Calculate the number of units that need to be sold, for the profits from both the existing and the changed processes to be equal.

(4 marks)

(d) Draw a single profit/volume chart for the period, showing the profit arising both from the existing and the changed production processes, for sales up to 10,000 units. Clearly indicate the break-even points and the margins of safety for both productions processes.

(8 marks)

(Total 20 marks)

QUESTION 4

Cleanwell Ltd produces a single liquid product which is bottled at the end of the process.

A standard batch of material input to the process comprises the following:

Material A	2,000 litres @ £5.68 per litre
Material B	100kg @ £2.40 per kg
Material C	100kg @ £4.00 per kg

A standard batch should produce 5,000 bottles of the product.

Actual results for the last period were as follows:

Number of batches processed	16
Bottles of product produced	78,400

Materials used:

Material A	32,800 litres at a cost of	£192,540
Material B	1,620kg at a cost of	£3,788
Material C	1,560kg at a cost of	£7,480

REQUIRED

(a) Calculate the standard direct material cost of one bottle of the product.

(3 marks)

(b) Calculate the following variances:

(i) Material price for each material and in total

(6 marks)

(ii) Material mix in total

(4 marks)

(iii) Material yield in total.

(4 marks)

Note: use the number of batches processed to calculate the mix and yield variances.

(c) Calculate the material usage variance and reconcile this with the appropriate variances calculated in part (b).

(3 marks)

(Total 20 marks)

QUESTION 5

Sue is planning to start a new business on 1 January Year 14 by producing and selling a single product. Sue will invest £25,000 of her own capital of which £10,000 is available at the outset with the balance in July Year 14. In addition she has applied for a £40,000 bank loan, to be received at the start of business.

Prior to commencement of the business Sue intends to purchase factory machinery for £15,000. This purchase will be paid for in January. Her bank manager has asked for a cash budget and profit statement to support a loan application.

Sue has provided the following budgeted information for the first year of trading:

Period (Three months)	**Jan-Mar**	**Apr-Jun**	**Jul-Sep**	**Oct- Dec**
Sales (£)	40,000	60,000	72,000	88,000
Direct materials purchased(£)	9,000	12,000	14,400	16,800
Direct labour(£)	16,000	20,000	24,000	28,000
Selling expenses(£)	6,000	8,000	9,000	10,000

The following other information is available:

(1) Sales, which are all on credit, will be spread evenly within each three month period

(2) Customers will be allowed a two-month credit period. It is expected that bad debts will account for 1% of the sales value

(3) All products will be produced in the month of sale

(4) Direct materials, purchased in the month of production, are payable one month after purchase.

(5) Direct labour is payable in the month incurred

(6) 60% of the selling expenses are payable in the period incurred, the balance being paid in the following period

(7) Factory overheads, excluding depreciation, are expected to be £10,800 per three month period. 40% of this cost is payable in the period incurred, the balance being paid in the following period

(8) Office administration overheads of £1,000 per month are expected to be payable one month after being incurred

(9) Factory machinery is expected to have a 10-year life with no scrap value and will be depreciated in equal instalments over its life

(10) No repayment of the loan is expected in the first year of business but interest, at 12% per annum, is payable monthly in the month after it is incurred

(11) No stocks of raw materials or finished goods are to be held.

REQUIRED

For the first year of trading assuming that the bank loan is received:

(a) Prepare a cash budget for **each** of the three month periods.

(14 marks)

(b) Prepare a single budgeted profit statement.

(6 marks)

(Total 20 marks)

