

Series 4 Examination 2009

COST ACCOUNTING

Level 3

Tuesday 3 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

Blue Stock Ltd maintains stock record cards that show the physical stock, allocated stock, amount on order and free stock. The stock record card for one item of stock, material M, recorded the following information and balances at the beginning of month 11:

Reorder level	400 kg of free stock
Reorder quantity	250 kg
Physical stock	450 kg
Allocated stock	50 kg
Amount on order	250 kg

The following transactions relating to material M took place during month 11:

Date

2 nd	150kg issued to job number 122 (not previously allocated)
3 rd	50kg issued to job number 116 (previously allocated)
4 th	100kg allocated to job number 121
8 th	Materials ordered at end of month 10 received.
15 th	40kg returned to supplier as faulty. Supplier agreed to replace
20 th	60kg allocated to job number 117
27 th	Supplier replaced material returned on 15 th of month

REQUIRED

- (a) Write up the detailed stock record card for material M for month 11. (8 marks)

During the forthcoming year, Blue Stock Ltd has budgeted to use 12,000kg of material P. No safety stock of this part is to be carried by the company and production will be evenly distributed throughout the year.

The following information related to this part is available:

Cost per kg of material P	£10
Ordering costs	£200 per order
Stockholding costs	12% of the average stock value per annum
Order sizes available	1,000kg, 2,000kg, 3,000kg and 4,000kg

REQUIRED

- (b) (i) Produce a table showing the total annual ordering and stockholding costs, for material P, for each order size and identify the optimum order size in order to minimise total cost.
- (ii) Use the EOQ formula to verify your answer to part (i) above. (8 marks)

- (c) State **two** examples of each of the following:

- (i) Stock holding costs
(ii) Stock-out costs

(4 marks)

(Total 20 marks)

QUESTION 2

Sole Products Ltd manufactures its product in a single process. All materials are introduced at the start of the process and any losses that occur have no scrap value. The company uses the first-in-first-out (FIFO) method of valuation.

Production overheads are absorbed at the rate of £12 per direct labour hour.

Direct labour is paid at the rate of £10 per hour.

The following information is available for the month of Oct Year 9.

Opening stock of work-in-progress (60% complete with respect to labour and overheads)	500kg	£12,000
Material introduced	10,000kg	£63,000
Direct labour utilised		£26,400
Transfer to finished goods		8,000kg
Closing stock of work-in-progress (50% complete with respect to labour and overheads)		800kg

A normal loss of 1,000kg was expected.

REQUIRED

- (a) For the month of Oct Year 9:
- (i) calculate equivalent units and cost per unit for each element of cost
 - (ii) calculate the value of the transfer to the finished goods and of the closing stock of work-in-progress
 - (iii) prepare the process account showing both quantities and values. (16 marks)
- (b) Contrast briefly the cost accounting treatment of normal loss and abnormal loss. (4 marks)

(Total 20 marks)

QUESTION 3

During the next period, a company plans to sell 75,000 units of its single product, at a selling price of £15 per unit. Fixed overheads and net profit for the next period are expected to be £240,000 and £360,000 respectively, using the existing production process.

The company is considering a change to its production process. The change would increase the fixed overheads by £85,000 in the next period and reduce the variable costs to £6 per unit. The selling price will remain constant regardless of production process.

Production capacity in both the existing and changed processes would be 100,000 units in the period.

REQUIRED

- (a) For the existing production process, calculate for the next period the expected:
- (i) break-even point in units
 - (ii) margin of safety as a % of sales
 - (iii) contribution sales ratio.
- (6 marks)
- (b) Advise management, using supporting calculations, whether to change the the production process if the sales are 75,000 units in the period.
- (5 marks)
- (c) Advise management, using supporting calculations, of the sales level (units) at which the changed and existing process profits would be the same.
- (6 marks)
- (d) Identify **three** limitations of break-even analysis.
- (3 marks)

(Total 20 marks)

QUESTION 4

Singular Ltd uses a batch production method to produce its single product by combining two materials, Aye and Bee. The company has budgeted for a material mix ratio of 60:40 for Aye and Bee respectively.

The following information relates to each batch:

Direct material input	400kg
Material Aye standard price	£2 per kg
Material Bee standard price	£5 per kg
Standard yield	320kg of product

The waste generated has no value.

Actual results for Month 10 were as follows:

Output	16,000 kg	
Material Aye	11,400 kg	£21,800
Material Bee	8,400 kg	£44,500

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)

QUESTION 5

Dual Products Ltd manufactures and sells two products (Product Tee and Pee). The sales budget for the next period is as follows:

Tee	Pee
10,000 units	24,000 units

Stocks of finished goods, for both products, at the beginning of the budgeted period are expected to be 25% of the budgeted sales. Production is to be budgeted to increase the finished products stock by 10% over the period.

Three raw materials (Material X, Y and Z) are used by the company in the manufacture of the two products, in the following combinations:

	Tee (per unit)	Pee (per unit)
Material X	0.20 kg	0.12 kg
Material Y	0.16 kg	0.18 kg
Material Z	0.24 kg	0.25 kg

A 20% weight loss of Material Y is expected during the manufacturing process. No weight loss is expected with Material X or Z.

Stocks of raw materials at the beginning of the period are expected to be:

Material X	1,022 kg
Material Y	585 kg
Material Z	610 kg

Purchases of Material X are budgeted so that the stock at the end of the period is expected to be sufficient to manufacture 2,500 units of Product Tee and 6,000 units of Product Pee. No changes in the level of stocks of Material Y or Z are to be budgeted.

Standard product costs are budgeted to be:

Raw material:	
Material X	£4 per unit
Material Y	£3 per unit
Material Z	£2 per unit
Direct labour:	
Product Tee	0.50 hrs per unit at £8.00 per hour
Product Pee	0.25 hrs per unit at £8.00 per hour
Variable production overheads	£2 per direct labour hour
Fixed production overheads for the period	£25,000

REQUIRED

Prepare the following budgets for the next period:

- (a) Production (units of each product) (4 marks)
- (b) Material purchases of each material (kg) (11 marks)
- (c) Production cost by cost element and in total. (5 marks)

(Total 20 marks)