

Certificate in Management Accounting

ASE3024

Level 3

Friday 22 November 2013

Time allowed: 3 hours

Information

- There are 5 questions in this examination.
 - Total marks available: 100
 - All questions carry equal marks.
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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.
 - Please ensure your answers are written clearly.
 - 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

Elmo Garner Limited has budgeted to sell 50,000 units of its product in the next period.

The following additional budgeted information has been prepared for the period.

| | £ |
|--------------------|----------------|
| Selling price | 40.00 per unit |
| Direct labour | 12.00 per unit |
| Direct materials | 8.00 per unit |
| Variable overheads | 7.50 per unit |

Total fixed overheads for the period are budgeted to be £174,375

Required

- (a) Calculate for the next period, the budgeted:
- (i) break-even point in units
 - (ii) margin of safety as a percentage of budgeted sales.
- (2 marks)

The company is considering installing new machinery which would increase the fixed overheads by £75,000 for the period, but would reduce the direct labour cost by £5 per unit.

- (b) Calculate for the next period, the revised budgeted:
- (i) break-even point in units
 - (ii) margin of safety as a percentage of budgeted sales.
- (3 marks)

Jakupovic Limited manufactures and sells three products.

The budgeted data for the next period is as follows.

| | Product Exe | Product Whye | Product Zed |
|-------------------------|-------------|--------------|-------------|
| Sales volume (units) | 10,000 | 6,000 | 4,000 |
| Selling price per unit | £80.00 | £60.00 | £50.00 |
| Variable costs per unit | £63.20 | £39.00 | £30.00 |

Total fixed overheads for the period are budgeted to be £166,320.

Required

- (c) Calculate, for each of the products, the budgeted contribution/sales ratio for the next period.
- (3 marks)
- (d) Based on the above sales mix (units), calculate the budgeted:
- (i) total contribution/sales ratio (to one decimal place)
 - (ii) break-even point (in sales revenue) for the next period.
- (2 marks)
- (2 marks)

Question 1 continued

Elborne Ltd manufactures a single product. It is anticipated that the monthly production will be between 5,000 and 7,000 units.

The following monthly cost budgets have been prepared for these two levels of activity.

| Units | 5,000 | 7,000 |
|----------------------|--------------|--------------|
| | £ | £ |
| Cost element | | |
| Direct materials | 117,000 | 162,922 |
| Direct labour | 81,000 | 115,830 |
| Production overheads | 109,125 | 122,175 |

The following budgeted information is also provided.

1. Each unit of the product requires 3 kg of raw material. A 10% discount is received on the excess of purchases of raw material over 18,750 kg per month.
2. The direct labour cost per unit increases by 20% on the excess of production over 6,250 units per month.
3. Production overheads consist of a variable element plus a fixed monthly amount. In addition, there is a stepped increase of £6,750 in the fixed monthly amount when production exceeds 5,750 units.

During the month just ended, 6,600 units were manufactured.

Required

(e) Calculate the following budgeted figures based on the 6,600 units produced.

- (i) The direct materials cost (3 marks)
- (ii) The direct labour cost (2 marks)
- (iii) The production overhead cost – clearly showing the fixed and variable elements of this cost (3 marks)

(Total 20 marks)

Question 2

Kagawa Manufacturing makes four separate components, which are used in the assembly of its products.

There is a limit on capacity of 44,000 direct labour hours in the next period for the manufacture of components, which will not be sufficient to meet the expected demand. It will be necessary, therefore, to buy in some components from a sub-contractor (outside supplier) to make up any shortfall.

The company provided the following data for the four components in the next period:

| Components | One | Two | Three | Four |
|---------------------|-------|-------|-------|-------|
| Requirements: Units | 2,000 | 5,000 | 6,000 | 3,000 |

The following information also relates to the next period:

| Components | One | Two | Three | Four |
|--------------------------------------|-------|--------|-------|-------|
| Direct material per unit @ £5 per kg | 8 kgs | 10 kgs | 4 kgs | 8 kgs |
| Direct labour hours per unit | 3 | 4 | 3 | 4 |
| Machine hours per unit | 4 | 6 | 4 | 2 |
| Direct labour rates, per hour | £16 | £14 | £12 | £12 |

Variable production overheads are absorbed on the basis of direct labour hours at £4 per hour.

Fixed production overheads are absorbed on the basis of direct labour hours at £8 per hour.

A sub-contractor has offered to supply components at the following unit prices:

Component One £121; Component Two £166; Component Three £98; and Component Four £136.

Required

For the next period:

- calculate the shortfall in capacity (2 marks)
- determine the production schedule (showing all workings), and the quantity to be purchased from the sub-contractor in order to maximise profit (10 marks)
- identify **three** factors, apart from cost, that the company should take into consideration when buying in components. You should give a reason why each factor is important (6 marks)
- suggest **two** courses of action that the company could undertake in order to address the limiting factor problem identified. (2 marks)

(Total 20 marks)

Question 3

Yoshida Achmed is considering two alternative investment projects, both of which require the purchase of new equipment.

The following information relates to the two projects.

| | Project Aye | Project Bee |
|---------------------------------------|--------------------|--------------------|
| Duration | 4 years | 3 years |
| Purchase cost of equipment – Year 0 | £500,000 | £330,000 |
| Estimated annual net cash inflows: | | |
| Year 1 | £160,000 | £140,000 |
| Year 2 | £160,000 | £140,000 |
| Year 3 | £160,000 | £140,000 |
| Year 4 | £140,000 | NIL |
| Estimated disposal value of equipment | £60,000 | £40,000 |

Cost of capital is 10% per annum.

| Discount factors: | Year | 10% | 20% |
|-------------------|-------------|------------|------------|
| | 1 | 0.909 | 0.833 |
| | 2 | 0.826 | 0.694 |
| | 3 | 0.751 | 0.579 |
| | 4 | 0.683 | 0.482 |

Required

(a) Calculate for each of **Project Aye** and **Project Bee**:

- (i) The net present value (5 marks)
- (ii) The internal rate of return. (5 marks)

(b) (i) State what is meant by the term '**profitability index**', in the context of investment appraisal.

(1 mark)

(ii) Calculate the profitability index for each of Project Aye and Project Bee.

(2 marks)

(iii) Using your calculations in (b) (ii), state which project represents the best investment for the company.

(1 mark)

(c) Describe how **risk** might be incorporated into the capital investment project appraisal process.

(6 marks)

(Total 20 marks)

Question 4

You have been given the task of assessing the financial performance of two separate companies operating in the retail industry.

The financial information for these two companies is presented as follows:

| Company | Brady £000 | Simpson £000 |
|-------------------------------|-----------------------|-------------------------|
| Sales | 325 | 380 |
| Gross profit | 125 | 170 |
| Net profit | 60 | 96 |
| Fixed assets (net book value) | 135 | 200 |
| Current assets | | |
| Stock | 70 | 135 |
| Debtors | 45 | 75 |
| Bank | 25 | NIL |
| Current liabilities | | |
| Creditors | 55 | 45 |
| Bank overdraft | NIL | 40 |

Required

- (a) Calculate, for each company, the following ratios (to two decimal places).
- (i) Gross profit to sales (%) (2 marks)
 - (ii) Net profit to sales (%) (2 marks)
 - (iii) Return on capital employed (%) (2 marks)
 - (iv) Net asset turnover (2 marks)
 - (v) Current ratio (2 marks)
 - (vi) Acid test (quick) ratio (2 marks)
- (b) Compare the performance of both companies, in terms of profitability and liquidity.

You must use the ratios calculated in part (a) and the financial information above to support your answer.

(8 marks)

(Total 20 marks)

Question 5

Gomez Limited manufactures a single product.

| | £/unit |
|---|---------------|
| The following standard costs apply: | |
| Direct materials 5 kilos at £4 per kilo | 20.00 |
| Direct labour 4.5 hours at £6 per hour | 27.00 |
| Fixed overheads 4.5 direct labour hours at £4.70 per hour | <u>21.15</u> |
| Total standard production cost (per unit) | <u>68.15</u> |

Standard selling price is £79 per unit.

For October, production and sales were budgeted at 10,000 units.

The actual data for October is as follows:

Production and sales 10,600 units

Selling price per unit £78

Direct materials purchased and used was 55,000 kilos costing £214,500

Direct labour, 46,600 hours at a cost of £288,920

Fixed production overheads £215,800

Required

(a) Calculate the following variances for October:

- (i) Sales price
- (ii) Sales volume profit
- (iii) Direct material price
- (iv) Direct material usage
- (v) Direct labour rate
- (vi) Direct labour efficiency
- (vii) Fixed overhead expenditure
- (viii) Fixed overhead volume

(12 marks)

(b) Prepare a statement reconciling the budgeted gross profit with the actual gross profit, detailing all variances.

(4 marks)

(c) State **four** reasons why the investigation of variances is important in a standard costing system.

(4 marks)

(Total 20 marks)