**SERIES 4 EXAMINATION 2003**

# MANAGEMENT ACCOUNTING

**LEVEL 3**

(Code No: 3023)

TUESDAY 11 NOVEMBER

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***Instructions to Candidates***

*(a)* *The time allowed for this examination is **3** hours.*

*(b)* *Answer **5** questions.*

*(c)* *All questions carry equal marks.*

*(d)* *All answers must be clearly and correctly numbered but need not be in numerical order.*

*(e)* *Your answers should be written in blue or black ink/ballpoint. Pencil may be used only for graphs, charts, diagrams, etc.*

*(f)* *Candidates may use calculators provided the calculators give no printout, have no word display facilities, are silent and cordless. The provision of batteries and responsibility for their condition must rest with the candidate.*

*(g)* *All workings must be shown.*

**QUESTION 1**

**REQUIRED**

(a) Describe **3** benefits that a system of budgetary planning and control may bring to an organisation.
(6 marks)

(b) Define, giving examples, the term **principal budget factor** and explain its importance in budgeting.
(6 marks)

(c) Outline the advantages of **decentralisation** and the objectives of **transfer pricing** between divisions in a decentralised organisation.
(8 marks)

**(Total 20 marks)**

**QUESTION 2**

A company has the following working capital ratios:

| | |
|---|---|
| Raw material stock turnover | 20 times |
| Finished goods stock turnover | 15 times |
| Debtors collection period (credit sales) | 35 days |
| Raw material creditors payment period | 30 days |

The summary profit and loss account of the company for a year is set out below:

| | **£000** | **£000** |
|---|---|---|
| Sales (90% on credit) | | 6,030 |
| Production cost of sales: | | |
| Raw materials | 1,720 | |
| Direct labour | 1,290 | |
| Overheads | 1,640 | 4,650 |
| Gross profit | | 1,380 |
| Selling and administration overheads | | 1,020 |
| Net profit | | 360 |

Assume a 360 day year.

**REQUIRED**

(a) Calculate:

(i) the working capital cycle (number of days)

(ii) the total working capital (£000).

(11 marks)

In addition to the working capital values calculated in (a)(ii), the company has a bank overdraft of £276,000.

**REQUIRED**

(b) Calculate:

(i) the current ratio

(ii) the quick (acid test) ratio.

(5 marks)

**QUESTION 2 CONTINUED**

The company is considering offering discount to its credit customers for early settlement.

**REQUIRED**

(c) Outline the general impact that the introduction of an early settlement discount would have on working capital requirements and on the liquidity ratios.

(4 marks)

**(Total 20 marks)**

**QUESTION 3**

A company is considering undertaking a one-off job. The following schedule has been prepared:

Manufacturing costs for one-off job:

| | **£** | **Notes** |
|---|---|---|
| Materials | 3,600 | (1) |
| Direct labour | 4,520 | (2) |
| Machine maintenance and depreciation | 920 | (3) |
| General overheads | 3,100 | (4) |

**Notes:**

(1) 400 kg of material will be used on the job. This material, which cost £9.00 per kg when purchased some time ago, is no longer used in the company's normal business. The complete stock of 1,500 kg (or any part thereof) could be sold for £8.00 per kg. The current replacement cost of this material is £8.60 per kg.

(2) Direct labour costs comprise the wages of two employees, skilled in the manufacturing operation required for this one-off job. They would be transferred from another department. This would necessitate the hiring of sub-contract staff, at a cost of £4,900, to carry out their normal work.

(3) Machine maintenance and depreciation represents the normal period cost based on the expected duration of the one-off job. The asset value of the machine used on the job will be unaffected but incremental maintenance costs of £270 would be expected. Machine capacity is limited and other work would have to be delayed resulting in lost contribution of £300.

(4) General overheads comprise an apportionment of overhead costs (excluding maintenance and depreciation) based on the direct labour hours expected to be worked on the one-off job. Incremental general overheads for the job are estimated at £1,170.

**REQUIRED**

(a) Prepare a revised manufacturing cost schedule for the one-off job on a relevant cost basis.

(10 marks)

(b) Calculate the selling price for the job so as to provide a profit margin (net of relevant manufacturing costs) of 40%.

(2 marks)

(c) Briefly explain what is meant by the term **opportunity cost** and provide two examples of opportunity costs from the information above.

(8 marks)

**(Total 20 marks)**

**QUESTION 4**

Details relating to the standard production costs per unit of a product are:

| | |
|---|---|
| Direct materials | 1.2 kg at £8.60 per kg |
| Direct labour | 0.8 hours at £7.50 per hour |
| Variable production overhead | 0.8 direct labour hours at £1.20 per hour |
| Fixed production overhead | 1.1 machine hours at £12.00 per machine hour |

The standard selling price of the product is £47.50 per unit.

No raw material stock is held.

The following variances occurred in a period during which 4,100 units of the product were both manufactured and sold:

| | |
|---|---|
| Sales volume profit | £851 Favourable |
| Selling price | Nil |
| Direct material price | £176 Favourable |
| Direct material usage | £430 Adverse |
| Labour rate | £210 Adverse |
| Direct labour efficiency | £555 Favourable |
| Total variable production overhead | £87 Favourable |
| Fixed production overhead expenditure | £216 Favourable |
| Fixed production overhead volume | £660 Adverse |

**REQUIRED**

Calculate the:

(a) (i) budgeted production units

(ii) budgeted sales units.

(6 marks)

(b) (i) standard cost of actual production

(ii) standard gross profit on actual units sold.

(5 marks)

(c) (i) actual cost of direct materials

(ii) actual direct labour hours worked

(iii) actual fixed overhead expenditure.

(9 marks)

**(Total 20 marks)**

**QUESTION 5**

A company is considering an investment in new manufacturing facilities to meet the growing demand for its products.

The new manufacturing facilities would cost £2.4 m (Year 0). As a result of rapid technological change the facilities would be expected to have a useful life of only four years with no terminal value. The facilities would be depreciated over the four years on a straight-line basis.

Net cash inflows from the investment, starting in one year's time and including inflation at 3% per annum, are estimated as follows:

| | **£** |
|---|---|
| Year 1 | 772,500 |
| Year 2 | 795,675 |
| Year 3 | 874,182 |
| Year 4 | 900,407 |

The cost of capital in real terms is 8% per annum.

Discount factors are as follows:

| **5%** | **8%** | **11%** |
|---|---|---|
| 0.952 | 0.926 | 0.901 |
| 0.907 | 0.857 | 0.812 |
| 0.864 | 0.794 | 0.731 |
| 0.823 | 0.735 | 0.659 |

**REQUIRED**

(a) Adjust the net cash inflows above, for **each** of the four years, to real (current) terms.

(4 marks)

(b) Calculate the net present value (NPV) of the proposed investment.

(9 marks)

(c) Using the above net cash inflows including inflation, calculate:

(i) the payback period

(ii) the accounting rate of return.

(7 marks)

**(Total 20 marks)**

**QUESTION 6**

The following data applies to a joint manufacturing process for a period:

| | |
|---|---|
| Joint production costs | £76,800 |
| Output: | |
| Product A | 600 kg |
| Product B | 1,000 kg |
| Product C | 800 kg |

No stock of finished goods is held and sales of the above quantities were made in the period at the following prices per kg:

| | |
|---|---|
| Product A | £50.00 |
| Product B | £30.00 |
| Product C | £37.50 |

**REQUIRED**

(a) Calculate the gross profit of **each** product in the period (both in total and per kg) using **each** of the following methods of apportioning joint production costs:

(i) weight of output

(ii) sales value.

(10 marks)

(b) Calculate the gross profit margin (%) of **each** product resulting from **each** of the cost apportionment methods applied in (a) above.

(3 marks)

Consideration is being given to the further processing of Product C to form Product FPC. 1 kg of Product C would result in 1.2 kg of Product FPC. Additional prime costs of £14.00 per kg of Product FPC would be incurred in the further processing operation. Product FPC would be sold for £49.50 per kg.

**REQUIRED**

(c) Establish whether the further processing operation, to form Product FPC, would be worthwhile.

(7 marks)

**(Total 20 marks)**

 

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