

Examiner's report

MA1 Management Information

June 2012



General Comments

The examination paper consisted of 50 multiple-choice questions each worth 2 marks.

The four questions below, covering different aspects of the syllabus, are examples of questions that candidates found difficult. This report explains, for each example question, the basis for the correct answer and for the incorrect options selected by some candidates.

SAMPLE QUESTIONS FOR DISCUSSION

Example 1

The following is an extract from a list of data concerning production overheads in a factory:

<i>Output (units)</i>	35000	40000	45000	50000
<i>Management cost (\$)</i>	75000	80000	80000	85000
<i>Utilities cost (\$)</i>	31000	34000	37000	40000

What cost behavioural types are indicated by the above data?

	<i>Management</i>	<i>Utilities</i>
A	<i>Fixed</i>	<i>Semi-variable</i>
B	<i>Fixed</i>	<i>Variable</i>
C	<i>Stepped-fixed</i>	<i>Semi-variable</i>
D	<i>Stepped-fixed</i>	<i>Variable</i>

This question tested Section C1b in the Study Guide.

Option C is the correct answer but Option D was by far the most popular option (chosen by nearly 60% of candidates). Relatively few candidates selected Options A or B indicating that a significant majority of candidates were clear that the management cost was a 'stepped-fixed' rather than a 'fixed' cost. The error made by the majority of candidates, in selecting Option D rather than Option C, was in believing that the utilities cost was a 'variable' rather than a 'semi-variable' cost.

A variable cost is a cost that varies in proportion to a change in activity (output units). This was not the case for the utilities cost, for example \$0.886 per unit of output at 35,000 units and \$0.80 per unit of output at 50,000 units. The cost per unit reduces as output increases indicating a fixed element to the cost.

A semi-variable cost is a cost that has both fixed and variable elements. The fixed element will decrease as a cost per unit as output increases while the variable element will remain the same per unit. The variable element in the utilities cost is evidenced by the increase in the total cost in response to a change in output. Each increase of 5,000 units leads to an increase of \$3,000 in the total cost, a variable element of \$0.60 per unit.

Example 2

9,250 units of a company's single product were sold at \$55 per unit in a period during which 9,460 units of the product were manufactured. There was no inventory at the start of the period. The company uses a marginal costing system as the basis for profit statements.



Unit costs of the product were as follows:

	\$ per unit
Direct costs	26.90
Variable production overhead	3.20
Fixed production overhead	12.60
Variable non-production overhead	1.90
Fixed non-production overhead	5.80

What total contribution would be reported in the profit statement for the period?

- A \$206,030
- B \$212,750
- C \$217,580
- D \$230,325

This question tested Section C1d in the Study Guide.

While the correct answer, Option B, was the most popular choice, only 34% of candidates selected it. All of the other three options were equally popular, with 22% of candidates selecting each one. This indicated a fairly widespread and varied misunderstanding of how contribution is calculated.

Total contribution is the difference between the total sales revenue and the total variable cost of sales (both production and non-production variable costs). In this example, the contribution per unit is the selling price of the single product less the direct costs, variable production overhead and variable non-production overhead [$55 - (26.9 + 3.2 + 1.9) = \23 per unit]. The total contribution is the contribution per unit multiplied by the number of units sold ($\$23$ per unit \times 9,250 units = \$212,750).

Option A incorrectly deducted, from the total sales revenue, the total variable costs per unit multiplied by the production units, rather than the sales units [$(\$55$ per unit \times 9,250 units) $-$ ($\$32$ per unit \times 9,460 units) = \$206,030].

Option C incorrectly calculated the total contribution on the production units, rather than on the sales units ($\$23$ per unit \times 9,460 units = \$217,580).

Option D ignored the variable non-production overhead and calculated the contribution per unit as [$55 - (26.9 + 3.2) = \$24.9$ per unit]. Total contribution became, incorrectly, $\$24.9$ per unit \times 9,250 units = \$230,325.

Example 3

For which of the following tasks would a computer spreadsheet be most useful?

- A *Apportionment and re-apportionment of overheads*
- B *Listing products and their selling prices*
- C *Preparing sales invoices and statements*
- D *Recording the issue of materials from inventory*

This question tested Section F1b in the Study Guide.

A computer spreadsheet is most useful for tasks that require calculation and analysis of numerical data on a regular basis. Formulae can be established so that, from given sets of input data, outputs can be easily and



quickly calculated and re-calculated. This can be in the form, for example, of budgets, profit statements, variances or overhead apportionment/absorption.

The most popular answer to this question was the incorrect Option B, selected by 37% of candidates, with a further 35% incorrectly choosing Options C or D. Only 28% of candidates chose the correct answer, Option A.

Example 4

The following information is available for a responsibility centre for a period:

Gross profit	\$460,000
Net profit	\$176,000
Non-current assets	\$1,200,000
Net current assets	\$320,000
Cost of capital	10% per period

What is the residual income for the period?

- A \$340,000
- B \$308,000
- C \$56,000
- D \$24,000

This question tested Section C2f in the Study Guide.

Residual income is a performance measure used in investment centres. It is calculated by the deduction of an interest charge for the use of capital (total capital employed \times cost of capital per period) from the net profit. The capital employed comprises the non-current assets plus the net current assets. Thus in this example the correct answer is \$24,000 (Option D) calculated as [$\$176,000 - (\$1,520,000 \times 0.1)$]. Only 25% of candidates chose this option. The incorrect Options B and C were both more popular with over 60% of candidates choosing one or the other.

Option B was incorrect because the interest charge was deducted from the gross profit not the net profit. Thus $\$462,000 - \$152,000 = \$308,000$.

Option C was incorrect because interest was only charged on the non-current assets and not on the total assets (i.e. including the net current assets as well). Thus, $\$176,000 - \$120,000 = \$56,000$.

Option A, incorrectly chosen by 14% of candidates, combined the above two errors. Thus, $\$460,000 - \$120,000 = \$340,000$.