



Examiner's report

MA2 Managing Costs & Finances

For CBE and Paper exams covering January to June 2013

General Comments

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

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

Sample Questions for Discussion

Example 1

A company manufactures a single product with the following costs:

	<i>\$ per unit</i>
<i>Prime costs</i>	<i>24.60</i>
<i>Variable production overheads</i>	<i>3.10</i>
<i>Fixed production overheads</i>	<i>12.90</i>
<i>Variable non-production overheads</i>	<i>1.40</i>
<i>Fixed non-production overheads</i>	<i>5.80</i>

Production and sales for a period were:

Production: 15,100 units

Sales: 15,400 units

What is the difference in profit for the period comparing absorption costing with marginal costing?

- A*** *Absorption costing \$3,870 lower*
- B*** *Marginal costing \$3,870 lower*
- C*** *Absorption costing \$5,610 higher*
- D*** *Marginal costing \$5,610 higher*

The question tested item C2e in the Study Guide on the subject of profit reconciliation in absorption and marginal costing. Candidates had to decide whether, comparing the two costing systems, profit for a period would be higher or lower and by how much.

Candidate selections between the four options were fairly evenly spread indicating a widespread misunderstanding of the fundamental difference between the two costing systems.

The profit difference between the two systems is calculated as the change in the finished goods inventory over a period multiplied by the fixed production overhead absorption rate per unit. If finished goods inventory increases over a period then absorption costing profit is higher than marginal costing profit. This is because an increased amount of fixed production overhead is carried forward in closing inventory in absorption costing to be charged in the following period rather than as a current period cost in marginal costing. If finished goods inventory decreases over a period then absorption costing profit is lower than marginal costing profit.

In this question, finished goods inventory has decreased over the period (sales > production by 300 units) and so absorption costing profit will be lower/marginal costing profit will be higher (Options A or D, selected by 49% of candidates). The amount by which profits differ between the two systems is 300 units multiplied by the fixed

production overhead absorption rate of $\$12.90 = \$3,870$ (Options A or B, also selected by 49% of candidates). Thus approximately half of the candidates knew that absorption costing profit would be lower/marginal costing profit higher and approximately half of the candidates knew by how much.

27% of candidates knew both aspects and selected the correct answer (Option A). Option B ($\$3,870$), selected by 22% of candidates, and Option D (marginal costing higher), also selected by 22% of candidates, were half correct.

The most popular answer was Option C, selected by the remaining 29% of candidates, but this was incorrect both on the direction (absorption costing profit higher) and on the amount ($\$5,610$ which included all fixed overheads not just the fixed production overheads) of the profit difference.

Example 2

A capital investment project has an initial cash outflow followed by net cash inflows each year for 5 years. The net present value (NPV) of the project is:

Positive when cash flows are discounted at 5% per annum

Positive when cash flows are discounted at 10% per annum

Positive when cash flows are discounted at 15% per annum

What does the above data indicate about the internal rate of return (IRR)?

- A*** *It is below 5%*
- B*** *It is above 15%*
- C*** *It is between 5% and 10%*
- D*** *It is between 10% and 15%*

This question tested item D3d in the Study Guide on the subject of discounted cash flow.

The spread of candidate selections to this question, and the fact that 72% of candidates believed the IRR to be at or below 15% despite a positive NPV at that discount rate, demonstrated a widespread misunderstanding of discounting.

The present values of future cash flows decline as the discount rate is increased. The % IRR of a capital investment project is the discount rate that results in an NPV of zero. If the NPV of a project is positive when cash flows are discounted at a particular rate then the discount rate has to be raised to reduce the NPV to zero (i.e. the % IRR is greater than the particular rate used). It follows that if the NPV of a project is negative when cash flows are discounted at a particular rate then the % IRR will be lower than that rate.

Thus, as the NPV in this project is still positive when discounted at 15% then the % IRR of the project will be above 15%. The correct answer is Option B which was chosen by just 28% of candidates.

The 72% of candidates who believed that the IRR is at or below 15%, even though the NPV is positive at that rate, included 27% who chose Option D (IRR between 10% and 15%), 30% who chose Option C (IRR between 5% and 10%) and the remaining 15% who chose Option A (IRR below 5%).

Example 3

2,620 kilograms (kg) of a product were manufactured from 2,850 kg of raw material. There was an abnormal gain of 55 kg. Process costs totalled \$48,760.

What was the cost per kg of expected output (to two decimal places)?

- A*** *\$18.61*
- B*** *\$17.11*
- C*** *\$18.23*
- D*** *\$19.01*

This question tested item C4c in the Study Guide on the subject of accounting for losses in a manufacturing process.

Although the highest proportion of candidates (30%) selected the correct answer (Option D), each of the other three options was selected by between 21% and 27% of candidates, again indicating widespread misunderstanding.

Where there are losses in a manufacturing process that can be separated into normal (expected) and abnormal (unexpected), unit costs in process costing are based not on the output achieved but instead on the amount of output that was expected. Expected output, which is clearly specified as a requirement of the question, is either calculated as materials input less normal loss or, as is the case using the data in this question, as output less abnormal gain (NB it would be plus if there was an abnormal loss). If output is greater or less than expected this is adjusted for in the process account by valuing abnormal gains or losses at the cost per unit of expected output.

In this question the expected output is 2,565 kg (output 2,620 kg less the abnormal gain of 55 kg because actual output exceeds the output expected) and the cost per kg of expected output is \$19.01 ($\$48,760 \div 2,565$ kg).

27% of candidates incorrectly calculated the expected output to be 2,675 kg (2,620 plus 55) i.e. incorrectly calculated as being greater than the actual output. As noted above, if there is an abnormal gain it means that the actual output is more than what was expected, not less. This was Option C: $\$48,760 \div 2,675$ kg = \$18.23 per kg.

22% of candidates simply divided the process costs by the input raw material, thus not allowing for any loss in the calculation of the expected output. This was Option B: $\$48,760 \div 2,850$ kg = \$17.11 per kg.

21% of candidates simply divided the process costs by the output, without adjustment for the abnormal gain i.e. assuming the output to be as expected. This was Option A: $\$48,760 \div 2,620$ kg = \$18.61 per kg.