Examiner's report

F5 Performance Management
June 2016

General Comments

There were two sections to the examination paper and all of the questions were compulsory. Section A consisted of 20 multiple choice questions (two marks each) which covered a broad range of syllabus topics. Section B had three shorter questions (worth 10 marks each) and two longer questions (worth 15 marks each.) These questions covered all of the key syllabus areas. In general, performance on Section A of the exam was significantly better than on Section B. It is a good idea to do this section of the paper first to build your confidence before tackling the written questions. Make sure that you do not spend more than the allotted time on this section of the paper. It is better to move on and then come back at the end if you have time.

The following paragraphs report on each section of the June paper and focus on some of the key learning points.

Specific Comments

Section A

It was pleasing to see that the majority of candidates attempted all of the questions. As usual, candidates preparing for the next examination of F5 are advised to work carefully through the sample questions available in the pilot paper and carefully review how each of the correct answers was derived. The following June 2016 question is reviewed with the aim of giving future candidates an indication of the types of questions asked, guidance on dealing with exam questions and to provide a technical debrief on calculating the learning rate.

Example

A company has started production of a new product and has found that the first 10 units of production took 120 hours. The next 30 units produced took a further 150 hours.

What was the learning rate?

A. 75.00%

B. 56.25%

C. 66.70%

D. 80.00%

The answer to the question is A: 75.00% and can be calculated several ways. One approach is shown below:

We know that every time cumulative output doubles, the cumulative average time per unit or batch falls to a fixed percentage of its previous level. Here, the cumulative average time for the first 10 units (1 batch) was 120 hours. Since the incremental time for the next 30 units (3 batches) was 150 hours, the cumulative total for all 40 units (4 batches) is 270 hours (120 + 150.) This means that the cumulative average time per batch is 67.5 hours (270/4).

In this question, cumulative output doubled twice: once from 10 to 20 units and once more from 20 to 40. So, the learning effect has taken place twice. So, expressing this as an equation and then solving to find r:
$67.5 = 120 \times r^{2.}$
$67.5/120 = r^2$
$0.5625=r^2$
$\sqrt{0.5625} = r$
$0.75 = r$
Therefore, the learning rate is 75%.

Section B

Question One
This was a variance question examining the area of sales planning and operational variances (market size and market share). Part (a) was calculative and part (b) was discursive.
This question was poorly answered. For part (a) it was necessary to first of all work out the revised sales quantities and the standard contributions for both products. This probably wouldn't have been a huge problem but many candidates didn't appear to know that these variances are a breakdown of the sales volume variance and instead worked out planning and operational variances for price. Others, that did know this, used actual contribution rather than standard contribution.

The discussion part of this question was also a problem for many candidates. Even if they had calculated the variances correctly, most didn't seem to know what they meant. Many candidates identified the fact that the planning variance was uncontrollable but then went on to ignore this in their discussion. Also, many lost easy marks by not defining the variances or saying that they were a breakdown of the sales volume variance, even though the requirement specifically asked for definitions.

It was disappointing to see a lack of knowledge on these variances which are really useful in understanding a business' sales performance.

Question Two
This question was based entirely on discussion of a given break-even chart for a particular business. The business in question provided training courses. Candidates were required to calculate the break-even point in terms of $ sales revenue and the profit for a certain number of attendees. Then they had to explain the cost and revenue structure of the business using the graph.

Most of the interpretation was quite straightforward and candidates performed some accurate calculations and good analysis. The only tricky part of the question arose because of the nature of the fixed cost line, which actually included a part which was semi-variable. The fixed costs line of the business was unconventional in that it began fixed, then became variable for between attendees of 100 and 200, and then became fixed again. Candidates who identified this and possible explanations for this change in the fixed costs scored well. However, even if they didn't, many candidates still made a decent attempt at the question and earned some high marks anyway.

In a question of this nature, it is worth noting that it is particularly important to correctly identify the lines in the first place. A common error was to wrongly identify the 'total cost' line as a purely variable cost line, even though it began at $20,000. Also, of course a revenue line always starts at 0 to reflect the fact that if sales volumes are 0, so is $ revenue. Some candidates mixed up the revenue line with the total cost line. Other candidates thought each of the lines represented a different type of course and didn't identify that this was a break-even chart at all. However, where the lines were correctly identified in the first place, it is fair to say that the answers were generally a comfortable pass.

Question Three

This was a classic activity-based costing (ABC) question asking firstly for a calculation of the activity-based cost for three products and secondly, for a discussion of whether the company in question should implement activity-based costing. This question was really well-answered by the majority of candidates with many candidates scoring full marks. Where mistakes were made in the calculations, it tended to be because candidates simply divided the cost pool by the cost driver e.g. dividing inspection costs by the number of inspections per unit. The approach should have been to multiply the number of inspections by the number of production units first and then dividing the cost pool by this total. If this wasn't the approach taken, then this naturally led to incorrect activity-based costs for each product.

As regards the discussion, some incorrect comparisons and conclusions were made because of incorrect reading of the question. In the question, the price being charged for each product was given, although the cost under absorption costing was not given. Some candidates misread the question and though that it was the traditional absorption cost that was being given for each product rather than the price. Consequently, they compared their activity based cost to the price (erroneously thinking they were comparing it to the absorption cost) and concluded that both products were cheaper to make using ABC. Another common error was to say that because the cost of one product was lower using ABC than the cost of the other product, ABC should be adopted for one product only. This is, of course, not possible. The whole purpose of ABC is that it allows a fairer allocation of overheads to multiple products made within a business.

Question Four

This question covered transfer pricing. The scene set was that one division was supplying another division and external customers with a component. The supplying division had enough capacity both to supply internally and meet the maximum external demand. However, following a decrease in the external price of the component, it was actually now cheaper for the buying division to buy from the external supplier, such that the internal transfer price needed to be reduced. Also, the supplying division was benefitting from savings on selling and distribution costs by selling within the company but wasn't passing those savings on to the buying division.

In part (a) candidates had to calculate the incremental loss per component for the group if the buying division bought from the external supplier in future. It was a really simple calculation: external buying cost less internal production cost, but most candidates got this wrong. Perhaps it was because they expected it to be more difficult than it was. They also had to work out how many components the supplying division should sell to the buying division if group profits were to be maximised. Again, the answer was simple: all of them. Many candidates got this part correct. It's worth noting that if a requirement is only worth 3 marks, like this one, the calculations required will

be quite short. Some candidates wrote several pages of complex calculations here but should have realised that they were doing something wrong given that the question was only worth 3 marks.

Part (b) involved some profit calculations for the divisions and the group, most candidates made a decent attempt at this. Part (c) involved some discussion of the problems arising if the transfer price wasn't changed. Candidates were supposed to identify the fact that, if the transfer price wasn't changed, the buying division would buy from the external supplier as the divisions had autonomy. However, some candidates failed to notice this point and discussed how demotivating it would be for the buying division instead.

Question Five

The final question on the paper was a relevant costing question within the context of a shutdown decision. An organisation running fee paying schools needed to temporarily close one of them because of a temporary downturn in business (due to a recession) which was only expected to last three years. It was a trickier question than some of the others and required some thought before putting pen to paper. The approach to take was to work out the three-year cost of closing each school and opt to close the school with the largest cost. The main mistake made was to work out the annual profit of each school and choose to close the school that was the least profitable. This approach would not have worked since it would not have taken into account the fact that some costs for each school would still be incurred even if the school was closed, such as maintenance costs.

Overall, another reasonable sitting with a similar number of candidates passing the exam compared to previous sittings. Hopefully, the above analysis offers some advice for future candidates on some of the common mistakes in certain questions and advice on what to watch out for.