Institute of Incorporated Public Accountants

Module 13:

Advanced Management Accounting

Wednesday 29th May 2013

2pm – 5pm

Instructions: **Answer five questions**

You must answer the three questions in Section A

Answer any two questions from Section B

All questions carry equal marks

Time Allowed: **3 Hours**

Section A - Compulsory   Answer all three questions

The following scenario relates to questions 1, 2 and 3 and should be read before attempting the questions.

By April 2012 Aerial Technologies Ltd. had developed a cheaper and more efficient hand held scanner for identifying cracks in the wings of planes that were invisible to the human eye. The specification of the costs along with projected unit sales are set out below, and were prepared for the company's senior management team by a part-time trainee accountant on the 30th of April 2012. The purpose of the meeting was to confirm or reject the proposed estimates in relation to the launch of the new scanner on May 1st 2012.

			€ Totals
Budgeted Sales / Revenue	20,000 u	scanners x S.P. €115	**€ 2,300,000**
Budgeted Direct materials A	200,000	kilograms x €1.00 per kg	€ 200,000
Budgeted Direct Materials B	200,000	Kilograms x €5.00 per kg	€ 1,000,000
Budgeted Direct Labour	100,000	hours x €3.00 per hour	€ 300,000
Total budgeted Variable costs			**€ 1,500,000**
Plus			
Budgeted total Fixed Costs			
Production			€ 400,000
Marketing			€ 20,000
Budgeted Total Costs			**€ 1,920,000**
Budgeted Net Profit			**€ 380,000**

The minutes of that meeting of the 30th April 2012 recorded the following:
The managing director expressed her satisfaction that a projected net profit of €380,000 was forecast to be achieved in the first year of the new product's launch. No dividend had been paid to the shareholders for the last two years, and the prospect of being able to pay out something to them in the current year to 30/04/13 would be welcome news.

The sales director indicated that the estimated market for this type of product was 80,000 units with three or four other rival suppliers of this type of technology. With a forecasted sales volume of 20,000 units this would represent a projected 25% "start up" share of the market.

The sales director then proposed an amendment to the above budget. This was that the projected sale price be cut to €112.00 which she estimated would result in an increase in projected sales volume units of some 10%, and increase their projected share of the market to 27.50%.

The managing director agreed with the proposal as this obviously meant a corresponding 10% increase in projected net profits.

However, the operations director indicated that the technical capacity of the plant at the moment was 22,500 units. Although the proposed increase in volume units to 22,000 units by the sales director proposed was within that range, it would mean operating at an activity level of 97%.
Given that this was a new product, with its own particular production requirements, he would not be confident that more costs, including an increase in fixed maintenance costs, might not be incurred.

Arising from this the managing director asked the trainee accountant, who had prepared the projections, to indicate what was the break-even and margin of safety based on the existing projections.

The trainee accountant responded that whilst she had heard of those terms she had not yet acquired sufficient theoretical and practical knowledge to report on them with confidence. The managing director, having considered the operations manager's objections and the replies from the trainee accountant, decided to reject the sales director's proposal and to go ahead with the existing proposed production and sales volume of 20,000 units and a sales price of €115.

It was proposed finally to meet again on 10th May 2013 to review the actual results.

In the meantime the managing director decided to hire a fully qualified accountant to prepare the actual results and address some of the issues raised by himself.
Unfortunately there was a delay in getting board approval for the new post of finance director. Thus you, the newly recruited accountant, had barely time to familiarise yourself with the accounting records, bring them up to date and prepare the actual results for this particular product for year ended 30/04/13, for the meeting of the 10th May 2013.

These actual results are set out on the next page.

A summary of actual results for the year ended 30/04/13 are set out below

Actual Sales	21,000 u	scanners x €111.50	**€ 2,341,500**
Actual direct materials A	199,500	kilograms x €1.10 per kg	€ 219,450
Actual direct Materials B	224,700	kilograms x €4.50 per kg	€ 1,011,150
Actual Direct Labour	115,500	hours x €2.85 per hour	€ 329,175
Total Variables costs			**€ 1,559,775**
plus			
Actual Fixed Costs			
Actual Production costs			€ 420,000
Marketing			€ 25,000
Actual Total costs			**€ 2,004,775**
Actual total Net Profit			**€ 336,725**

The managing director expressed disappointment that the actual Net Profit was some 11% short of the target net profit of €380,000.
He had already informed the shareholders of the projected target profit and now he would have to report to them a revised actual lower net profit.

The sales director pointed out that she had exceeded both her volume and sales revenue targets.

The operations director asked what was the actual total market for scanners. The sales director, annoyed at the operations director's question about an area in which he had no expertise, replied that it was in fact 86,000 units though she didn't think such a statistic was relevant for this meeting.

What was relevant, she continued, was that the actual production costs were clearly greater than the budgeted production costs, and it was this more than anything else that caused a failure to meet projected net profit.

The production manager vigorously rejected the argument stating that the two statements, the Budget and the Actual results were not comparable, and that the sales director was talking nonsense. Further, he pointed out that the marketing costs were not his responsibility and these had increased by some 25%.
At this point the meeting degenerated into a heated argument between the operations manager and the sales director.

The managing director decided to adjourn the meeting till the following Friday as she was anxious to get some more detail.

The managing director called you - the newly appointed financial controller - into her office and asked you to address the following issues.

Section A - Compulsory Answer all three questions

<u>Question 1</u>

Based on the original projected amounts:

(a) Compute the break-even in units and revenues [Rounded to the nearest whole number]. (4 marks)

(b) Compute the margin of safety in percentage terms [Rounded to two decimal places]. (2 marks)

(c) Ignoring the Operation director's objections, should the Sales director's proposal of a cut in sales price for an increase in volume has been accepted? Give reasons . (4 marks)

(d) Compute the revised break even in units under the rejected Sales director's proposal to amend Sales Price to €112.00 [rounded to the nearest whole number]. (2 marks)

(e) List four assumptions underlying break even computations. (4 marks)

(f) List four other factors that should be considered. <u>(4 marks)</u>

<u>(20 marks</u>)

Section A - Compulsory   Answer all three questions

Question 2

Compute the following variances.
In each case indicate whether it is Favourable i.e. **F** or adverse i.e **A**
Where relevant all final amounts computed should be rounded to the nearest euro

(a) Sales price variance. (2 marks)

(b) Sales volume variance expressed in standard contribution analysed into
- (i) Market size (2 marks)
- (ii) Market share. (2 marks)

(c) Material price variance [for both direct material A and B]. (4 marks)

(d) For direct materials A and B compute the
- (i) the mix variance (2 marks)
- (ii) the yield variance. (2 marks)

(e) Labour rate and the labour efficiency variance. (4 marks)

(f) Fixed expenditure variances [(i) Production and (ii) Marketing]. (2 marks)

(20 marks)

Question 3

(a) Using the computations determined in answer to question 2, set out a statement reconciling the budgeted net profit with the actual net profit. (8 marks)

(b) Write a report to the managing director incorporating the findings from your reconciliation statement, and the comments made by the directors at the meeting of 10th May 2013. The report should include an explanation of the difference between an Ideal standard and an Attainable standard. 12 marks)

(20 marks)

Section B Answer any two of the three questions

Question 4

Mobile Homes Ltd has started up in the production of customised caravans. Set out below are the costs and profit margins of its first caravan.

Materials				€6,000
Labour cost	700	hours x	€10.00 per hour	€7,000
Overhead	150%	of labour cost		€10,500
				€23,500
Profit market	20%			€4,700
Sales price				€28,200

The production manager believes that the projected average cumulative hours per caravan will be subject to a learning curve and will be as follows;

Cumulative total of caravans	Cumulative hours per caravan
1	700
2	560
4	448

J Lyons a wealthy individual with a large extended grown up family is making enquiries about the purchase of one or more caravans. At the moment there are no other customers with orders for Mobile Homemakers. Lyons is their only customer so far.

(a) If Lyons paid €28,200 for the first caravan, and he later orders a second caravan; what price should Mobile Home Ltd. quote for that second caravan? **(3 marks)**

(b) If Lyons ordered two caravans at the same time, what price per caravan should Mobile Homes Ltd quote to him? **(4 marks)**

(c) If Lyons having already purchased two caravans now orders a third and fourth caravan, what price per caravan should Mobile Homes Ltd quote for the third and fourth caravan? **(5 marks)**

This question continues on the next page

Section B Answer all two of the three questions

Question 4-Mobile Homes Ltd-requirements continued

(d) If Lyons decided instead to make a first order for either

(i) 4 caravans

or

(ii) 6 caravans

Then what price should Mobile Homes Ltd quote per caravan in the case of
an order for (i) 4 caravans?
an order for (ii) 6 caravans?

. **(8 marks)**

Note learning curve $Y = AX^b$

Learning co-efficient: $\frac{\text{Log of rate of learning}}{\text{Log 2}}$

Rate of learning	60%	70%	80%	90%
Co-efficient	-0.73697	-0.51457	-0.32193	-0.152003

Total **<u>(20 marks</u>)**

Section B Answer any two of the three questions

Question 5

Solar Panel Ltd was a company set up to sell and install mini solar panels in small to medium sized homes. The following information was presented at the company strategy meetings.

Total production costs were estimates as follows:

1,500 units for a total production cost of € 950,000
2,000 units for a total production cost of €1,200,000

Additionally, there were variable selling costs of €80 per unit.

The senior sales manager presented a number of sales price and volume estimates.

Sale Price per Unit	Sales
€ 1,200	1,000 u
€ 1,000	1,500 u
€ 800	2,000 u

In his estimation he believes that there is a linear relationship between sales price per solar panel and sales volumes.

It was suggested that the obvious sales price should be €1,200. Other members disagreed suggesting the production cost were a mixture variable or fixed and taking account of that then the optimum price was not necessarily the highest sales price.

Required

(a) Calculate the net profit to the company if the sales price of €1,200 is selected. **(4 marks)**

(b) Calculate the optimum sales price, quantity and the net profit arising. **(12 marks)**

(c) Set out two criticisms of Optimal Pricing. **(4 marks)**

(20 marks)

Section B Answer any two of the three questions

Question 6

(a) Set out the four perspectives of performance measurement that is incorporated in the Balanced Score Card. **(4 marks)**

(b) In relation to each perspective outline its purpose **(12 marks)**

(c) Outline some limitations in relation to the Balanced Score Card **<u>(4 marks</u>)**

Total <u>(20 marks</u>)

END OF EXAMINATION PAPER