Advanced Management Accounting

Tuesday 21st June 2011

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 questions

<u>The following scenario relates to question 1, 2 and 3 and should be read before attempting the questions.</u>

A number of recent Irish government reports have indicated that the new government has tackled the banking crisis, and increasing exports are helping to strengthen the economy. However, IBEC and the SFA have both reported that cost concerns, and access to working capital are still major factors in determining the success or failure of business. These issues are familiar to accounting students as financial performance is always affected by profitability and cash-flow.

You have been engaged as a financial consultant by a small electronics company that specialises in supplying global positioning satellite devices for use in the car manufacturing sector. This company was established seven years ago by post doctoral researchers as a university spin out company. Initially it was partly funded by Enterprise Ireland's high potential start-up programme. Three years ago the company successfully raised a large amount of finance using the popular Business Expansion Scheme to establish manufacturing facilities.

An analysis of the last three years financial reports reveal that the company has grown its sales revenues from one million euro to three million euro, but that the company has still remained at breakeven level due to increases primarily in wage and salary costs including directors' remuneration. Cash-flow has always been a major issue for the business, and several times over the past three years the company has breached bank agreements. Despite this, the external finance raised has somewhat satisfied the banks as to the potential future success of the company.

At the company's most recent board of directors' meeting the research and development director announced that a major technological breakthrough has been made with huge potential for increasing sales revenue over the next five years, but will require another capital investment to upgrade the current manufacturing facilities. The finance director indicated that given the ongoing banking situation within Ireland, and due to internal issues such as previous covenant breaches and low levels of profitability, that it was unlikely that the main commercial banks in Ireland would offer finance, or if they did so it would be at punitive rates. He has previously made overtures with venture capital funders, and a number of these have expressed an interest in investment, but this will require detailed financial analysis and a dilution of current shareholders' stock. One possible idea would be to set up a new company to exploit the major technological breakthrough and manage the new product.

The finance director has provided a preliminary estimate of costs and volume for this new product. However, due to current work pressures caused by cash-flow issues he has been unable to spend sufficient time to analyse the figures. Relevant budgeted data are as follows:

	Per unit
Selling price	€100
Direct materials	€30
Direct labour	€20
Variable production overhead	€5
Fixed production overhead	€5

The fixed production overhead cost per unit is based on budgeted production of units per annum. Sales commission of 10% is paid on every unit sold and fixed selling, distribution and administration overheads amount to €1,000,000 per annum.

Sales and production data are budgeted as follows:

	Year 1	Year 2	Year 3
Production (units)	50,000	60,000	60,000
Sales (units)	45,000	56,000	61,000

The brief for the consultancy project is to prepare budgets, and offer appropriate financial and expert advice on performance management, to enable the directors to decide on an appropriate course of action.

Section A: Answer all questions

Question 1

(a) Prepare profitability statements for each year using the variable / marginal costing approach. You may assume that there will be no fixed overhead expenditure variances or no work in process. Closing inventory valuations for finished goods should be clearly shown.

[8 Marks]

(b) Prepare profitability statements for each year using the absorption costing approach. You may assume that there will be no fixed overhead expenditure variances or no work in process. Closing inventory valuations for finished goods should be clearly shown.

[8 Marks]

(c) Reconcile and explain the differences between the profits in parts (a) and (b), and briefly recommend how financial performance could be improved.

[4 Marks]

[Total 20 Marks]

Question 2

(a) Prepare a report to the Board of Directors advising what performance measurement tools are available to the company for both the existing and proposed business. Give examples of such measures and explain what benefits may accrue from their use.

[12 Marks]

(b) Explain what cost management methods a manufacturing company may employ to control costs.

[8 Marks]

[Total 20 Marks]

Question 3

You have undertaken a review of work practices and have analysed previous new product launches and come to the conclusion that a learning curve exists in relation to the direct labour. The units are produced in batches of 1,000 units, and past experience shows the labour learning effect to be 90% for the first four batches, and to cease after this quantity has been produced,

i.e. time for every subsequent batch will be equal to the time for the fourth batch. Direct labour is skilled and is paid €20 per hour, and the financial director has estimated this to be the relevant cost and time per unit for the first batch and has not considered the learning effect.

Required:

(a) Calculate the average budgeted contribution per batch for the first four batches.

[8 Marks]

(b) Calculate the budgeted contribution for each subsequent batch after the learning ceases.

[8 Marks]

(c) Comment on the implications of the learning effects on budgetary control systems.

[4 Marks]

[Total 20 Marks]

Note: **Learning curve =** $Y = ax^{-0.152}$

Section B : Answer any two questions from 4,5,6

Question 4

(a) The accountant of North Limited has presented management accounts projections for each of its four products A, B, C and D for the coming year as shown below:

	A	**B**	**C**	**D**
	€000	**€000**	**€000**	**€000**
Sales	600	400	475	675
Less Product Costs:				
Direct Materials	125	175	125	240
Direct Labour	150	125	100	200
Variable Production Overhead	120	80	85	135
Fixed Production Overhead	120	120	120	120
Profit / (Loss)	85	(100)	45	(20)

The accountant suggests that any loss making products should be dropped from the product range. Fixed production overhead is deemed to be 50% product specific and 50% general production overhead costs that are not affected by any decision.

Required:

Recommend, with supporting financial analysis, whether the loss making products should be discontinued and the financial impact on overall profitability of your decisions.

[10 Marks]

(b) South Limited has identified a difficulty with a supply of a material for the coming month. This material is used by each of its three products, details of which are given below.

	X	**Y**	**Z**
Budgeted Sales & Production (units)	10,000	8,000	6,000
	€	€	€
Sales Price per unit	28	34	45
Less Variable Costs per unit			
Direct Materials @ €3 per kg	9	6	15
Direct Labour	5	5	5
Variable Production Overheads	5	5	5
Fixed Production Overheads	4	4	4
Profit	5	14	16

The company has a stock of 60,000 kgs of direct materials available for production for the coming period.

Required:

Calculate the maximum contribution and the optimal production plan given the availability of direct materials for the coming month, and state what other factors should be considered before adoption of this plan.

[10 Marks]

[Total 20 Marks]

Question 5

Storm Limited has recently developed a new smart-phone and is confident that it can make a significant impact in the mobile phone market due to its innovative technology. As this is a new market to Storm they are having difficulty considering what selling price to set. The cost accountant has established the following cost structure:

Direct Materials	€75 per unit
Direct Labour	€12.50 per unit
Variable Production Overhead	100% of direct labour cost
Fixed Production Overhead	€10 per unit

Fixed production overheads have been determined based on a budgeted annual output of 10,000 units. Direct materials, direct labour and variable production overheads are all variable with output.

The market research firm employed by the company has found it difficult to determine the price demand relationship, but has established that a linear relationship exists whereby demand will increase by 1,000 units for every €10 decrease in price and vice versa. They have also indicated that they expect demand to be 10,000 units at a price of €220.

Required:

(a) Determine the expected profit or loss for Storm based on the above budgeted data.

[3 Marks]

(b) Calculate the optimal price and output level necessary to maximize profits of Storm Limited for the coming period. Prepare a profitability statement at this level.

[12 Marks]

(c) List the weaknesses that are associated with the optimal pricing strategy.

[5 Marks]

[Total 20 Marks]

Question 6

Lazee Limited prepares its monthly management accounts using a standard absorption costing system. The managing director is unhappy with the format of these reports and has asked you to review current practice. You have established that the current standard cost card for the single product that is manufactured and sold is as follows:

		€ per Unit
Selling Price		100
Direct Materials	4 kgs @ €5 per kg	20
Direct Labour	2 hours @ €10 per hour	20
Variable Production Overhead	2 hours @ €5 per hour	10
Fixed Production Overhead	2 hours @ €5 per hour	10

Production overheads are absorbed on the basis of 10,000 standard direct labour hours per month.

For the month just ended you have obtained the following actual information.

		Total €
Sales revenue	4,500 units	441,000
Direct Materials	18,900 kgs	113,400
Direct Labour	8,500 hours	106,250
Variable Production Overhead		45,000
Fixed Production Overhead		52,000

Further investigation has revealed that the average current market price for materials is €6.50 per kg, and that a recent labour court ruling has increased the rate per hour for direct labour to €12.50 per hour.

Required:

(a) Prepare, using variance analysis, a reconciliation of original budgeted profit to the actual profit.

[10 Marks]

(b) Prepare all planning and operating variances for direct materials and direct labour, and comment on the results.

[6 Marks]

(c) State the weaknesses of including just the financial variances in monthly management reports.

[4 Mark]

[Total 20 Marks]