Advanced Management Accounting
Module 13

November

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

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

The Global Entrepreneurship Monitor (GEM) is a not-for-profit academic research consortium, that has as its goal making high quality information on global entrepreneurial activity readily available to as wide an audience as possible (www.gemconsortium.org). GEM produces annual reports on entrepreneurial activity and the most recent published Irish annual report for 2008 reports that Ireland still has one of the highest rates of enterprise start-up among the European Union. A possible negative aspect of this report is that two thirds of these start-up entrepreneurs receive no formal education or training in starting a new enterprise.

At the end of 2008, John Kelly was made redundant from his role as technical director with a large multinational electronics firm. The business relocated to Poland citing the high cost of operating in Ireland. John was very disappointed but received a large redundancy settlement due to almost twenty years service with this company. He then availed of an opportunity offered by the newly formed regional jobs task-force to renew his academic qualifications and completed a one year full time Master in Electronic Engineering at the local university. The programme contained a number of academic and practical modules and a thesis element. As part of John's research for the thesis element he identified an opportunity in the market place to develop a new electronic solar panel that could be used by homes or small businesses to reduce mainstream electricity costs.

On completion of the Masters programme John presented his findings to Enterprise Ireland who enrolled him onto their High Potential Start-up Programme and presented him with an Innovation Voucher to work with the local university to further develop a prototype. The prototype was successfully developed and patented and John has formally commenced production of the panel for commercial distribution. He has invested his full severance package of €100,000 as capital into the business and is trading as a sole trader. The first month production figures are presented below and John is extremely disturbed at how much over budget his costs are.

	Standard variable cost card per unit	Actual data based on 350 production units
Material A	0.5 kg per unit @ €20 per kg	0.6 kg per unit @ €25 per kg
Material B	0.5 kg per unit @ €10 per kg	0.4 kg per unit @ €12 per kg
Electrics	€50 per unit	€60 per unit
Labour Assembly	2 hours @ €15 per hour	3 hours @ €15 per hour

John had budgeted for monthly production of 500 units per month but actual production achieved for the first month was only 350 units due to difficulties recruiting and training qualified staff. Fixed costs came in on budget at €20,000 for the first month. On the positive side John has agreed to sell all production for the first three months to a large 'solar solutions' company who will integrate the panel as part of a new solution they will launch through their established sales distribution network. He has agreed a price of €150 per unit payable one month after the end of the initial three month period.

As John has not requested bank overdraft or loan facilities he has had no difficulty opening a business current account but has realised that he may require such facilities in the very near future. John meets with an experienced Enterprise Ireland business mentor who is concerned at both how John has commenced business operations and the sales contract for the first three months production. Having undertaken some quick market research the mentor presented John with the following price / demand information.

Price per unit €	Monthly Demand (units)
150	500
180	480
210	460

The mentor advises that due to the essential nature of the product that John has in all likelihood under-priced the product and he should consider a new pricing structure for future sales orders. John admits that he did not pay due attention to material prices and usage for the first month but is determined that such a situation will not re-occur and he is on target to achieve production of 500 units for the second month. John also admits that his personal life is under severe stress due to the long hours he is working and concerns about possible financial difficulties. The mentor advises that John has achieved great success so far and that the business has a very good outlook.

Section A: Answer all questions

Question 1

(a) Using the standard cost card information and the agreed selling price calculate the budgeted profit or loss for the first month based on actual production and the expected profit based on budgeted production of 500 units.

[4 Marks]

(b) Prepare a reconciliation statement using all relevant variances to reconcile John's original budget of 500 units to the actual output of 350 units for the first month.

[12 Marks]

(c) Give possible reasons for the adverse variances and make recommendations as to how these can be avoided in future.

[4 Marks]

[Total Marks 20]

Question 2

(a) Using the standard cost card and the market research calculate the optimal selling price John should set in order to maximise profits and calculate this monthly profit figure.

[15 Marks]

(b) Explain the factors that need to be considered before implementing the optimal price and the possible situations where this may not be the preferred price.

[5 Marks]

[Total Marks 20]

Question 3

(a) Identify the financial difficulties that John is facing and make recommendations as to how these difficulties may be overcome.

[10 Marks]

(b) Evaluate how John has set up his business and advise on alternative options that may be more appropriate in this situation.

[4 Marks]

(c) Advise John on what key performance metrics he should monitor in order to ensure success for his new business.

[6 Marks]

[Total Marks 20]

Section B – Answer any two questions

Question 4

Curly Limited produces and sells three premium hair-care products at different prices in differing quantities. The products are sold to hairdressers in boxes of fifty units per box. As management accountant you have been asked by the managing director to prepare a short report on break even and target profitability for the coming year.

So far you have established the following information:

	Shampoo	Conditioner	Combination
Selling price per box	40.00	60.00	70.00
Variable cost per box	20.00	20.00	25.00
Expected Sales (boxes)	25,000	15,000	10,000

Fixed costs for the company are expected to be €1,000,000 for the year.

Required

(a) Prepare a budgeted income statement showing total contribution by each product and total operating profit for Curly Limited for the coming year.

[4 Marks]

(b) Calculate the budgeted breakeven sales revenue for the period and calculate the numbers of boxes of each product that this represents.

[8 Marks]

(c) Each product requires two machine hours per box. The production manager has stated that due to a delay in commissioning new manufacturing plant, the number of machine hours available for the coming year will be limited to 75,000 hours. Calculate the optimum production schedule and calculate the maximum profit achievable given this constraint.

[8 Marks]

[Total Marks 20]

Question 5

Breezy Limited manufactures home wind turbines and is about to launch a new product. Based on past experience, management expect the average time per unit produced to fall as output increases. Estimates and costing for the first mainstream production unit are as follows:

Materials	€150	
Labour	€200	based on 50 direct labour hours
Variable production overhead	€100	based on 50 direct labour hours
Fixed production overhead	€100	per unit produced

The company produces 50 units each month. Past experiences shows the labour learning effect to be 90% for the first 50 units and to cease after this quantity has been produced, i.e. time for every subsequent unit will be equal to the time for the 50^{th} unit. Selling price has been set at manufacturing cost plus a mark up of 40%.

Required:

(a) Calculate the profit for the first month on the new product if sales and production are as expected.

[8 Marks]

(b) Calculate the profit for the second month if a further 50 units are produced and sold and learning curve is as expected.

[8 Marks]

(c) Evaluate the pricing strategy as employed, giving your opinion as to its suitability.

[4 Marks]

[Total Marks 20]

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

Question 6

(a) Discuss how the use of certain performance measures can lead to dysfunctional decision making by management.

[6 Marks]

(b) Discuss why and how companies should undertake planned cost management programmes rather than engaging in 'crash' reduction programmes.

[8 Marks]

(c) Explain the different types of quality costs one would expect to find in cost of quality report. Explain their relevance to the management accountant.

[6 Marks]

[Total Marks 20]