GX15

Ollscoil na hÉireann, Gaillimh

National University of Ireland, Galway

Summer Examinations 2000

Second Year Bachelor of Commerce (Evening)

and

Second Year Diploma in Management (Evening)

Management Accounting and Finance (AY 210)

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Mr. J. McDonnell

Time Allowed: Three Hours.

Candidates should answer two questions from Section A, and two questions from Section B, a total of four questions.

Please use separate answer books for each section of the paper.

Present Value tables and a table of Financial Formulae are attached.

Section A: Management Accounting

(Answer Two questions)

Question 1:

Limbova Ltd. manufactures a single product. The company's internal accounting procedures include a system of standard costing and variance analysis, and the preparation of monthly budgets. Budgets are drawn up by accounting staff at the request of a "budget committee" of senior managers. The budget committee reviews draft budgets and requests changes, before approving the budget for implementation.

The budget approved for April 2000 was based on the following data:

- budgeted sales: 5,000 units @ £210 each;
- budget fixed overheads: £250,000;
- standard variable costs for each unit of output:
  - raw materials: 8 kilograms @ £2.50 each
  - skilled labour: 5 hours @ £9 per hour
  - unskilled labour: 6 hours @ £6 per hour

At the end of April, the following summary of ***the actual results*** for the month was prepared:

Sales (4,900 units of output)		**£1,009,400**
Raw materials (40,180 kilograms)	£98,441	
Skilled labour (23,600 hours)	£217,120	
Unskilled labour (29,700 hours)	£187,110	
Fixed overheads	£251,000	**£753,671**
Profit		**£255,729**

There were no opening or closing stocks of finished goods or raw materials.

Required:

(a) Calculate the standard variable cost per unit of output, and the original budget net profit, in accordance with the budget approved by the budget committee. **(6 Marks)**

(b) Use variance analysis to reconcile the original budget net profit with the actual profit of £255,729. **(14 Marks)**

(c) Draft a report to the budget committee, outlining likely causes of the variances which you have identified and suggesting what corrective action appears to be necessary for the future. **(5 Marks)**

(Total: 25 Marks)

Question 2 begins on the next page. ***P.T.O.*** ⇒

Question 2:

Rustica Ltd. imports a number of small rustic furniture products from Mexico, which it retails at a standard price of £95.00 per unit. Each product costs the company £50.30. Additionally, Rustica pays carriage and duty on each item totalling £9.40 and there are specific selling costs in respect of delivery to customers amounting to £3.20 per unit.

Because of increased price competition and serious concerns about the economy in general, the owners are considering purchasing similar replica products from a local manufacturer, which, although of lesser quality, would be considerably cheaper to buy at £38.10 per item. This supplier would not charge carriage and there would be no duty. The delivery costs to customers would still have to be met by Rustica. The selling price proposed is £69.50 for the Irish product.

There are two employees involved solely with selling these products and there is some disagreement about the merits of proceeding with the proposed change to local products. The manager feels that the change to the local Irish made product will push demand next year up to 4,900 units from the current level of 3,700 for the past year. His assistant believes that, despite the reduced price, sales of the new Irish product would not exceed 2,500 units because of the market downturn and much lower quality. The assistant also believes that even if the company continues with the Mexican product that demand would fall to 3,300 units because of the intense price competition in the market place and the market downturn.

The manager and his assistant are paid a total of £55,700 per year in salaries. Additionally, fixed costs directly related to these products include advertising £20,000, light and heat £3,200 and insurance and other fixed expenses of £11,622 per annum.

Required:

Part (a)

(i) Calculate the number of units which must be sold to break even if the company adopts the policy of buying and selling the Irish home made alternative product. **(4 Marks)**

(ii) calculate the number of units which must be sold to break even if the company continues its policy of selling the imported Mexican product. **(4 Marks)**

(iii) calculate the profit or loss under each of the alternative policies if a volume of 3,500 units were achieved in the coming year. **(3 Marks)**

(iv) Assume for this part only that the adoption of the Irish product reduced the cost of advertising to £4,400. Calculate the volume of sales at which the level of profit would be the same irrespective of whether the company stocks the Mexican or the Irish product. **(5 Marks)**

. . . / **Continued**

Question 2 is continued on the next page. ***P.T.O.*** ⇒

Question 2: (Continued)

Part (b)

(i) Using the Expected Value (EV) model, and showing calculations as necessary, illustrate how the company might decide which type of product to stock, assuming that the more expensive Mexican items would sell either 3,700 or 3,300 units, each with 50% probability, and that the cheaper Irish substitute would sell either 4,900 or 2,500 units, each with 50% probability.

(5 Marks)

(ii) Based solely on demand levels in b(i) above and using the standard deviation and the coefficient of variation, illustrate and explain which of the two options carries the most risk.

(4 Marks)

(Total: 25 Marks)

Question 3:

If you choose this question, then answer <u>either</u> (A) <u>or</u> (B).

(A) Discuss the suitability and the relevance of past data for cost estimation and prediction, and describe the methodology and the associated strengths and weaknesses of models which may be used for cost prediction based on past data.

(25 Marks)

OR:

(B) "Organisations [which apply activity-based costing techniques] are gaining a real edge in today's competitive marketplace".

- McKenzie, "Activity-based costing for beginners" (CIMA, 1999).

Discuss.

(25 Marks)

Section B (Finance) begins on the next page. ***P.T.O.*** ⇒

Section B: Finance

(Answer Two questions)

Question 4:

Williamson Plc. is considering its Capital Budget for next year. The Finance Director requires an estimate of the company's marginal Weighted Average Cost of Capital as a basis for the assessment of projects for inclusion in the capital spending plan.

The following data is available:

- The company plans to maintain a capital structure consisting of 70% equity and 30% debt in market value terms.
- The company's tax rate is 20%.
- The ordinary shares are presently selling for £3.80 per share. A dividend of 35 pence per share has recently been paid. This dividend has grown steadily from 20 pence per share over the past eight years, and this rate of growth is expected to continue for the foreseeable future.
- Datastream reports that the "beta" of the company's equity is 1.2. The expected rate of return on the stock market is 16% per annum over the next few years, and the yield on short-term Government Debt is 6% per year.
- The company expects to have sufficient Retained Earnings to provide the necessary "equity" financing for its capital budget. However, the requirement for debt financing will be met by a new issue of 7% Debentures, redeemable at par in ten years, at a net issue price of £90 per £100 of debt.

Required:

(a) Explain why retained earnings, as a source of finance, has a cost. **(6 Marks)**

(b) Estimate the cost of Retained Earnings using (i) the Dividend Valuation Model, and (ii) the Capital Asset Pricing Model. **(7 Marks)**

(c) Estimate the after-tax cost of debt financing for the planned issue of debentures. **(7 Marks)**

(d) Estimate the Weighted Average Cost of Capital for use in deciding on next year's capital budget. (Use the average of the two estimates of the cost of retained earnings in this calculation). **(5 Marks)**

(Total: 25 Marks)

Question 5 begins on the next page. ***P.T.O.*** ⇒

Question 5:

In an effort to reduce the company's investment in debtors, the financial controller of **Cusack Ltd.** is considering offering a cash discount of 2% to customers who pay their debts within 10 days of the date of invoice.

She has analysed the present situation, and has estimated the effects of the proposed discount policy, and she provides you with the following information:

- At present, sales amount to £7,200,000 per year, and the variable cost ratio is 70%. The discount proposal should result in a 10% increase in sales, but should leave the variable cost ratio unchanged.
- The present average period of credit taken by customers is 50 days, and the present level of bad debts is 2% of sales.
- Customers accounting for a total of 40% of sales are likely to avail of the discount, so that the average credit period for this group should be 10 days.
- The remaining customers who do not take the discount should pay on average in 60 days.
- As a result of the discount being offered, the level of bad debts is expected to decline to 1.5% of sales.
- The opportunity cost of capital for working capital investment is 10%.

Assume a **360-day year** in all calculations.

Required:

(a) Present an analysis as a basis for a recommendation on whether or not the company should offer a cash discount.

(17 Marks)

(b) Discuss the importance of assessing and predicting competitor reaction to proposed changes in debtor policy. Use the discount proposal in part (a) to illustrate your answer.

(8 Marks)

(Total: 25 Marks)

Question 6 begins on the next page. ***P.T.O.*** ⇒

Question 6:

(a) **Celtic Cruisers Plc.** is considering the replacement of one of its canal cruisers which has reached the end of its useful life. Two equally effective replacement alternatives are being considered, with the following features:

	Cruise Wizard	**Canal King**
Initial Cost	£45,000	£60,000
Expected Life	5 Years	7 Years
Annual Operating Costs	£10,000	£8,000
Residual Value	£5,000	£8,000

The company's cost of capital for equipment replacement is 15%. Ignore taxes.

Required:

(i) Calculate the present value of the cost of each replacement option over its life, and explain why these NPVs may not be a reliable guide for the replacement decision.

(9 Marks)

(ii) Prepare an appropriate analysis and recommend a replacement alternative. Explain your answer.

(9 Marks)

(b) Explain the usefulness of the Profitability Index in the allocation of scarce capital to competing investment proposals.

(7 Marks)

(Total: 25 Marks)

(End of Question Paper)