

OLLSCOIL NA hÉIREANN, GAILLIMH
NATIONAL UNIVERSITY OF IRELAND, GALWAY

SEMESTER II EXAMINATIONS 1999/2000

HIGHER DIPLOMA IN BUSINESS STUDIES

ACCOUNTING FOR MANAGEMENT DECISIONS (AY 874)

Professor R. W. Scapens
Professor J. F. Collins
Mr. J. F. McDonnell

Time allowed: TWO hours

Candidates are required to attempt THREE Questions, ONE of which must be from Section A and TWO of which must be from Section B.

All questions carry equal marks. Separate answer books are NOT required.

Graph Paper is available if required.

SECTION A
(Attempt one question from this Section)

Question 1:

Write an essay on Cost Volume Profit Analysis, dealing with each of the following topic headings:

- (i) Different approaches to the determination of the break-even point
- (ii) Profit-Volume Chart - the methodology and its use.
- (iii) Assumptions and limitations of the basic models
- (iv) Sensitivity Analysis
- (v) Relaxation of the single product assumption
- (vi) The relevant range and linearity assumptions.

Total: 33 $\frac{1}{3}$ Marks

Question 2:

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.

Total: 33 $\frac{1}{3}$ Marks

(Question 3 begins on the next page PTO)

Question 4:

Grimes Ltd. have introduced a new product. The company is currently projecting the expected sales for July 2000 for this product and based on the existing level of information the directors have arrived at the following cost structure and selling price:

Variable Costs: Materials	£177
Labour	<u>£369</u>
Total Variable Costs	£546
 Add for profit and product fixed costs	 <u>£300</u>
Proposed Selling Price	<u>£846</u>

The directors have concluded that they should sell 300 units at this price in July and have accordingly prepared the following product budget:

Contribution 300 @ £300	£90,000
 Fixed Costs (particular to this product)	 <u>£27,000</u>
Net contribution from this product	<u>£63,000</u>

The marketing manager has been researching the pricing and sales response of comparable products and he has concluded that relative to the directors conclusions, a £12 increase in price will result in a fall-off in demand of 8 units, while a £12 decrease in price would result in increased demand of 8 units. (It is possible to charge intermediary prices within each £12 range with proportionate changes in demand).

You are required to:

- (a) Calculate (assuming the marketing manager's conclusions are correct) the price and number at which profit will be optimised for the month of July 2000.
(16 Marks)
- (b) Prepare a statement showing the overall improvement in expected profit for July if Grimes adopts the pricing strategy in (a) above.
(4 Marks)
- (c) Comment on the usefulness and limitations of Cost Plus Pricing and Contribution Pricing.
(13 $\frac{1}{3}$ Marks)

Total: 33 $\frac{1}{3}$ Marks

(Question 5 begins on the next page PTO)

Question 5:

Delaney Ltd. produces two products, Track and Field which sell for £240 and £200 per unit respectively. The following are the production requirements:

	Track	Field
Labour (hours)	8	4
Material (kilos)	4	6
Machine Time (hours)	6	4

Available labour is limited to 80,000 hours and will cost £12 per hour. Material used is expected to cost £6 per kilo and to be limited in supply to 90,000 kilos.

Available machine time is limited to 90,000 hours. In line with the company's normal stock costing procedure, machine time is charged to products at £9 per hour, representing variable overheads of £4 per hour and an allocation of fixed overheads of £5 per hour. Fixed overheads are expected to amount to £450,000 in the coming year.

You are required to:

- (a) (i) Formulate the problem given as a linear programme.
- (ii) Using a graph, calculate and identify the optimum production plan for Delaney Ltd. (Plot Track Product on Vertical Axis)
- (iii) Confirm the outcome in (ii) above by solving for values using relevant equations
- and**
- (iv) Calculate the overall expected profit or loss for the year deriving from these optimum production levels.

(23 marks)

- (b) (i) Explain what is meant by the term dual (or shadow) price of a resource.

and

- (ii) Utilising your findings in (a) above, calculate the dual or shadow price of any one relevant constrained resource.

(10 $\frac{1}{3}$ Marks)

Total: 33 $\frac{1}{3}$ Marks

Question 5:

Delaney Ltd. produces two products, Track and Field which sell for £240 and £200 per unit respectively. The following are the production requirements:

	Track	Field
Labour (hours)	8	4
Material (kilos)	4	6
Machine Time (hours)	6	4

Available labour is limited to 80,000 hours and will cost £12 per hour. Material used is expected to cost £6 per kilo and to be limited in supply to 90,000 kilos.

Available machine time is limited to 90,000 hours. In line with the company's normal stock costing procedure, machine time is charged to products at £9 per hour, representing variable overheads of £4 per hour and an allocation of fixed overheads of £5 per hour. Fixed overheads are expected to amount to £450,000 in the coming year.

You are required to:

- (a) (i) Formulate the problem given as a linear programme.
- (ii) Using a graph, calculate and identify the optimum production plan for Delaney Ltd. (Plot Track Product on Vertical Axis)
- (iii) Confirm the outcome in (ii) above by solving for values using relevant equations
- and**
- (iv) Calculate the overall expected profit or loss for the year deriving from these optimum production levels.

(23 marks)

- (b) (i) Explain what is meant by the term dual (or shadow) price of a resource.

and

- (ii) Utilising your findings in (a) above, calculate the dual or shadow price of any one relevant constrained resource.

(10 $\frac{1}{3}$ Marks)

Total: 33 $\frac{1}{3}$ Marks