

Ollscoil na hÉireann, Gaillimh

National University of Ireland, Galway

Semester 1 Examinations, 2005/2006

Exam Code(s):	2BC1; 2BC2; 2BC3; 2BC4; 2BC5; 2BF1; 2CE3, 3CL1; 4CL2; 3IF1; 4BI1; 3BJ121; 1EM1; 1OA1
Exam(s):	2BC1 B.Comm. Degree; 2BC2 B.Comm Degree (French) 2BC3 B. Comm. Degree (German); 2BC4 B. Comm. Degree (Spanish); 2BC5 B. Comm. Degree (Italian) 2BF1 Business Information Systems degree; 2CE3 B. Comm. Degree (Evening); 3CL1 Corporate Law degree 4CL2 Corporate Law Degree; 3IF1 Information Technology degree; 4BI1 Industrial Engineering and Information Systems degree 3BJ121 Management Engineering with languages degree 1EM1 Erasmus students 1OA1 Occasional students
Module Code(s):	AY207
Module(s):	Management Accounting 1
Paper No.:	
Repeat Paper:	- Special Paper: -
External Examiner(s):	Professor P. Weetman
Internal Examiner(s):	Professor J.F. Collins Dr. B. Sweeney Mr. J. McDonnell Ms. M. Doran
Instructions:	Answer all questions in Section A and 2 questions from Section B
Duration:	2 ½ hours
No. of Answerbooks:	2 Separate answer books for each question in Section B
<u>Requirements:</u>	
Handout	-
MCQ	yes
Statistical Tables	-
Graph Paper	yes
Log Graph Paper	-
Other Material	-
Course Co-ordinator(s) / Department(s):	Department of Accountancy and Finance

Note: This examination paper is divided into two sections as follows:

Section A - Compulsory

Multiple Choice – 40 marks

(All multiple choice questions carry equal marks)

Answers must be filled in on computerised MCQ answer sheet

[Negative marking will not apply]

Full instructions for Section A are detailed on the page preceding the multiple choice questions

Section B

Answer any TWO Questions from this section

All questions in Section B carry 30 marks

Separate Answer Books must be used for each question attempted in Section B

SECTION A (QUESTION 1)

Your answers to this section must be on the special purpose MCQ (multiple choice questions) Answer Sheet which must be completed separately in accordance with the instructions given.

INSTRUCTIONS FOR COMPLETION OF MCQ SHEET

IT IS MOST IMPORTANT THAT YOU FOLLOW THESE INSTRUCTIONS. THE MCQ ANSWER SHEET FORM WILL BE READ BY MACHINE AND FAILURE TO FOLLOW INSTRUCTIONS MAY RESULT IN NO MARKS BEING AWARDED FOR THIS SECTION.

- o Enter your Candidate Number in the appropriate line at the top right hand corner:

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URGENT: Your Candidate number for this purpose is your **8 DIGIT STUDENT NUMBER (NOT EXAMINATION NUMBER)**
e.g. if student number is 12345678 you should enter

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1	2	3	4	5	6	7	8
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- o Enter immediately your
 - name
 - examination
 - date
- o Use only HB pencil or blue/black biro
- o Indicate your choice of answer like this (Assuming you consider [c] to be the correct answer for question 1)

> [a] [b] [c] [d] [e]

- o If you have a change of mind Tippex out neatly and remark new choice.
- o Do not mark in any other way, e.g. no ticks, crosses or circles
- o Candidates are strongly advised to spend at the very maximum 1 hour on this section. Each question has a value of 2 marks and accordingly, spending an inordinate amount of time on any one question would be ill-advised.

Section A (Question 1)
Multiple Choice Questions

1. Differences and similarities exist between managerial accounting and financial accounting. Which of the following statements is false?
- (a) Financial accounting reports are prepared primarily for users external to the firm.
 - (b) Managerial accounting is not subject to regulatory reporting standards.
 - (c) Both managerial accounting and financial accounting are subject to mandatory record-keeping requirements.
 - (d) Managerial accounting reports are provided to the managers of the firm.
2. A joint product is:
- (a) any product produced by a firm with more than one product line.
 - (b) any product which consists of several parts
 - (c) any product involved in a make or buy decision
 - (d) one of several products produced from a common input.

The following information is to be used for questions 3 – 4 inclusive:

Products A and B are manufactured in a joint process. The following data is available for a period:

Joint process costs		€60,000
Output:	Product A	4,000 kg
	Product B	8,000 kg
Selling price	Product A	€12 per kg
	Product B	€18 per kg

3. What is Product B's share of the joint process costs if the sales value method of cost apportionment is used?
- (a) €15,000
 - (b) €36,000
 - (c) €20,000
 - (d) €45,000
4. What is Product A's share of the joint process costs if the physical measures method of cost apportionment is used?
- (a) €20,000
 - (b) €30,000
 - (c) €40,000
 - (d) none of the above

Question 1 is continued on the next page:

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5. Which of the following accurately defines the Internal Rate of Return (IRR)?

- (a) The average annual profit from an investment expressed as a percentage of the investment sum.
- (b) The discount rate (%) at which the net present value of cash flows from an investment is zero.
- (c) The net present value of the cash flows from an investment discounted at the required rate of return.
- (d) The rate (%) at which discounted net profits from an investment are zero.

The following information is to be used for questions 6 - 8 inclusive:

A company is considering investing in the following project:

Investment outlay of €241,000 is required at the start of the project. Net cash inflows over its five year life are as follows:

Year 1	€60,000
Year 2	€65,000
Year 3	€70,000
Year 4	€100,000
Year 5	€85,000

The company's cost of capital is 14%.

6. What is the Net Present Value (NPV) of the investment project above using the company's cost of capital?

- (a) €10,758
- (b) €253,170
- (c) €12,170
- (d) €5,845

7. What is the Internal Rate of Return (IRR) on the investment project outlined above? (rounded to nearest percent)

- (a) 15%
- (b) 20%
- (c) 12%
- (d) 16%

8. What is the payback period for the investment project outlined above?

- (a) 3 years
- (b) 3.46 years
- (c) 4 years
- (d) 4.46 years

9. What term is best used to represent the benefit sacrificed when one course of action is chosen in preference to an alternative?
- Avoidable cost
 - Direct cost
 - Incremental cost
 - Opportunity cost
10. A company is considering the use of Material X in a special order. A sufficient quantity of the material, which is used regularly by the company in its normal business, is available from stock.
What is the relevant cost per kg of Material X in the evaluation of the special order?
- cost of the last purchase
 - nil
 - replacement cost
 - saleable value
11. Sugar Ltd is currently operating at a loss of €15,000. The sales manager has received a special order for 5,000 units of product, which normally sells for €35 per unit. Costs associated with the product are normally: direct materials, €6; direct labour, €10; variable overhead, €3; applied fixed overhead, €4 and variable selling expenses, €2. The special order would allow the use of a slightly lower grade of direct material, thereby lowering the price per unit by €1.50 and selling expenses would be decreased by €1. If Sugar wants this special order to increase the total income for the firm to €10,000, what sales price must be quoted for each of the 5,000 units?
- €24.50
 - €23.50
 - €27.50
 - €34.00

The following information is to be used for questions 12 and 13 inclusive:

Total production costs and output over recent months for Wanaka Ltd. are outlined below:

Period	Production Costs	Output
June 2005	€639,000	260,000
July 2005	€678,000	300,000
August 2005	€700,000	320,000
September 2005	€727,000	420,000
October 2005	€800,000	400,000
November 2005	€656,000	280,000

Question 1 is continued on the next page:

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12. What will the fixed cost element of total production costs be using the high-low method of cost estimation (based on level of activity)?
- (a) €320,000
 - (b) €280,000
 - (c) €340,000
 - (d) none of the above
13. What total costs would be expected in December 2005 using the method of cost estimation in question 9 if the level of output was budgeted at 310,000 units?
- (a) €692,000
 - (b) €620,000
 - (c) €695,000
 - (d) €696,500
14. Which of the following is a weakness of the scattergraph method of analysing mixed cost?
- (a) Different people may come up with different answers even though they are analysing the same set of data.
 - (b) Only two points are used and the rest are ignored in drawing the scattergraph.
 - (c) It is impossible to determine variable cost per unit.
 - (d) All of the above.
15. A linear programming problem
- (a) can have no more than three resources constraints.
 - (b) can have only one objective function.
 - (c) can have no more than two dependent variables for each constraint equation.
 - (d) can have no more than three independent variables.

The following information is to be used for questions 16 and 17 inclusive:

In the following constraint equations, X and Y represent two products (in units) produced by Gerry Co..

Constraint 1: $3X + 5Y \leq 4,200$

Constraint 2: $5X + 2Y \geq 3,000$

16. What is the maximum number of units of product X that can be produced?
- (a) 4,200
 - (b) 3,000
 - (c) 600
 - (d) 1,400

Question 1 is continued on the next page:

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17. What is the feasible range for the production of Y?

- (a) 840 to 1,500 units
- (b) 0 to 840 units
- (c) 0 to 631 units
- (d) 0 to 1,500 units

The following information is to be used for questions 18 and 19 inclusive:

Grecian Manufacturing Ltd has forecast the following contribution levels for the next year and has assessed the likelihood (probability) of their occurrence:

Total Contribution	Probability
€200,000	0.10
€350,000	0.15
€500,000	0.15
€650,000	0.30
€800,000	0.20
€900,000	0.05
€1,000,000	0.05

The company's total fixed costs are estimated at €500,000 for this period.

18. What is the probability of at least breaking even?

- (a) 0.75
- (b) 0.60
- (c) 0.25
- (d) 0.15

19. What is the expected value of profit for the year?

- (a) €597,500
- (b) €500,000
- (c) €150,000
- (d) €97,500

20. When a scarce resource, such as space, exists in an organisation, the criterion that should be used to determine production is:

- (a) contribution margin per unit.
- (b) selling price per unit.
- (c) contribution margin per unit of scarce resource.
- (d) total variable costs of production

Total: 40 marks

Section B begins on the next page:

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Section B
Answer any TWO questions from this Section

Question 2

Inishboffin Ltd uses a traditional factory-wide costing system to allocate overheads to its 4 products based on direct labour hours. You are given the following details relating to its products:

	Product A	Product B	Product C	Product D
Direct labour hours per unit	3	4	2	6
Materials cost per unit	€25	€30	€15	€35
Sales/production units	68,000	36,000	43,020	21,000

Employees are paid €20 per hour. The management accountant is considering changing to an activity-based costing system and has decided on the following cost pools and drivers in breaking down total overheads:

Overhead	Amount	Cost driver
Raw materials handling	€480,060	number of requisitions
Quality checks	€1,504,800	number of inspections
Machine set-up costs	€623,040	number of set up hours
Machine related costs	€4,392,600	number of machine hours
Total	€7,000,500	

	Product A	Product B	Product C	Product D
Number of batches	17	18	22	14
Requisitions per batch	8	8	8	6
Quality inspections per batch	16	10	12	14
Total number of set up hours for each product	68	54	44	70
Total machine hours for each product	68,000	72,000	44,000	35,630

Required

- (a) Calculate the total cost of each product using the traditional costing system.
(8 marks)
- (b) Calculate the total cost of each product using an activity-based costing system.
(18 marks)
- (c) Explain why the costs you have calculated in part (b) are different from the costs calculated in part (a) and comment on which system results in more accurate product costs.
(4 marks)

Total: 30 marks

Question 3 begins on the next page: P.T.O ⇒

Question 3

Lincoln Scientific (Galway) publishes specialist revision texts for laboratory technicians. Because of the nature of its distribution and selling channels a large proportion of its variable costs are tied to and dependant on selling price. The company has gathered the following information on its most recent text which is currently in production and which it hopes to sell at €22.50:

Variable costs (per copy):

Printing and binding	€3.15
Sales and bookshop commission (18% of selling price)	€4.05
Royalties (16% of selling price)	€3.60
Administrative costs	€1.20

Expected fixed costs including editing at €8,000, advertising and promotion at €28,000 and fixed production costs of €37,500.

Required:

- (a) Determine the company's break-even volume for this book:
(i) in units
(ii) in euros
(7 marks)
- (b) Develop and graph a profit-volume chart for the text based on the above data.
(3 marks)
- (c) Using the profit-volume chart developed in (b), determine and show total profits at the following sales levels:
(i) 4,000 units
(ii) 7,000 units
(iii) 10,000 units
(Show brief workings to confirm your reading of profit levels from the chart).
(3 marks)
- (d) Determine the number of copies Lincoln Scientific must sell in order to earn a profit of €21,000 on this text.
(2 marks)
- (e) Assuming Lincoln Scientific budget to earn a profit of €21,000 on the text (as determined in (d), above), using sensitivity analysis, Calculate the margin of safety (in percentage terms) with respect to
(i) Volume?
(ii) Fixed costs?
(iii) Selling price?
(iv) Variable costs?
(5 marks)

Question 3 is continued on the next page:

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Question 3 Continued.....

- (f) Given that Lincoln Scientific feel that €22.50 may be too high a price to charge for the new text and that it has examined the competitive market and determined that €18.50 would be a better selling price. What would the breakeven volume be at this new selling price?
(2 marks)
- (g) What price would Lincoln Scientific have to sell the text at to make a profit of €19,740, assuming sales were expected to be 8,000 units.
(3 marks)
- (h) Briefly outline your understanding and the important features of the 'Relevant Range' and briefly discuss the underlying assumptions and practical problems involved in using Cost-Volume-Profit Analysis.
(5 marks)

Total: 30 marks

Question 4 begins on the next page:

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