UNIVERSITY OF LONDON

Undergraduate Service Teaching 2004

B.Sc., B.Eng. and M.Eng. Examinations

For internal Students of Imperial College of Science Technology and Medicine.
This paper also forms part of the examination for the Associateship.

ACCOUNTING

(BS0801)
(BS0822)

Tuesday 27th April 2004, 14:30 -16:30

CLOSED BOOK

Instructions

Answer **ALL** questions from Section A and **TWO** questions from Section B.

<u>SECTION A</u> (*Each question in section A carries 3% of the marks for the Examination)*

Please note:

There are two parts to each of the examination papers. The multiple choice part (part A) of the past paper has NOT been included due to Business School examination regulations. Only the essay part (part B) is shown.

<u>SECTION B</u> *(Each question in section B carries 35% of the marks for the Examination)*

11. You have the following information for Daedalus plc for 2003:

Balance Sheets (in £ millions) at	**1/1/03**	**31/12/03**
Fixed Assets (net book value)	92	110
Stocks	34	56
Debtors	22	35
Cash at bank	11	5
Total Assets	159	206
Creditors	26	42
Accrued Expenses	9	8
Long-term Debt	45	50
Ordinary Share Capital	20	25
Share Premium Account	10	20
Profit and Loss Account	49	61
Total Claims	159	206

<u>Profit and Loss Account for year ended 31/12/03 (in £ millions)</u>

Sales Revenue	211
Cost of Goods Sold	(166)
Gross Profit	45
Operating expenses	(20)
Profit before Interest and Tax	25
Loss on sale of fixed asset	(2)
Interest	(5)
Tax	(6)
Net Profit	12

Note: Depreciation expense for 2003 (included in operating expenses) amounted to £8 million. Fixed assets with a net book value of £7 million were sold during 2003.

You are asked to:

(a) Prepare a Cash Flow Statement for Daedalus plc for 2003 and comment on your figures. (20 marks)

(b) Calculate each of the following ratios for Daedalus plc for 2003 and comment on Daedalus plc's performance for the year.

Return on Equity Capital
Return on Net Assets
Return on Sales
Stock Turnover
Debtors collection period
Debt-equity ratio
Acid test ratio
Current ratio

(15 marks)

12. EE Ltd produces three product lines E1, E2, and E3. The firm's accountants have produced the following statement showing operating profits for these three product lines for the last quarter:

(Figures in £000s)	**E1**	**E2**	**E3**	**Total**
Sales Revenue	2,000	5,000	3,000	10,000
Materials	(900)	(2,000)	(1,200)	(4,100)
Direct Labour	(300)	(800)	(400)	(1,500)
Overheads	(600)	(1,600)	(800)	(3,000)
Operating Profit	200	600	600	1,400
Profit Margin %	10%	12%	20%	

Overhead costs of £3,000,000 above have been allocated between E1, E2 and E3 in proportion to direct labour cost above but the management of the firm are interested in using activity based costing to allocate these costs. For this purpose, they have identified four cost pools and related drivers as shown below:

Overhead cost pools	**Cost Driver**	**Cost (£000s)**
Production volume related costs	Direct Labour Cost	1,200
Engineering related costs	Works Orders	800
Materials purchasing related costs	Purchase Orders	400
Distribution related costs	Deliveries	600
		3,000

The following data on total activity levels for the quarter and the amounts of each activity driver used by the three product lines is available :

Activity driver	E1	E2	E3	Total
Direct Labour in £000s (as above)	300	800	400	1,500
Number of Works Orders	200	700	1,100	2,000
Number of Purchase Orders	10	50	40	100
Number of Deliveries	5	15	30	50

You are asked to:

(i) Prepare an alternative statement showing operating profit for each product line using an activity based costing approach to the allocation of overhead costs. [20 marks]

(ii) Comment on the differences between your profit statement and the statement prepared by EE Ltd's accountants. [8 marks]

(iii) Briefly discuss the advantages and disadvantages of activity based costing as an approach to allocating overhead costs. [7 marks]

13.

(a) The following information is available for Man Ltd. for 2003:

	£000
Stocks:	
Raw material stocks at 1/1/03	42
Raw material stocks at 31/12/03	48
Finished Goods Stock at 1/1/03 (10,000 units @ £5.50)	55
Costs for 2003:	
Raw Material purchases	500
Direct Labour	240
Electricity and other power	69
Depreciation	200
Supervisory salaries	81
Factory Rent and Rates	110
Miscellaneous factory expenses	30
Sales Revenue (200,000 units @ £9)	1,800

Note 1: Production in 2003 amounted to 240,000 units.

You are asked to produce a statement of Gross Profit for 2003 for Man Ltd. assuming closing finished goods stock items are valued at full (ie: average) production cost per unit for 2003. Briefly comment on the usefulness of profit measures based on full costing. [17 marks]

(b) XYZ Ltd produces a number of different products. Operating profit for product X for the last year is given below:

		£000
Sales (10,000 units @ £110)		1,100
Materials	300	
Direct Labour Cost	250	
Variable Production Overhead	100	
Variable Selling Expense	50	
Fixed Costs	200	(900)
Operating Profit		200

Management of XYZ Ltd are currently considering an expansion of output from the current level of 10,000 units per annum to 15,000 units per annum. This would require capital expenditure of £500,000 immediately on new plant and equipment. The new plant and equipment would be operational for 4 years and would have an expected scrap value of £100,000 at the end of this period. The following additional information is available:

- Selling price and variable costs are expected to remain at their current level.
- Annual fixed cost would rise from £200,000 to £350,000. The increase of £150,000 is partly made up of annual depreciation on the new plant and equipment of £100,000. The remaining £50,000 represents additional cash fixed costs.
- Working capital would have to rise from its current level of £200,000 to £280,000 for the four year period.
- The cost of capital for XYZ Ltd is 10%.

You are asked to calculate the NPV of the proposed investment and comment on whether or not the investment opportunity should be accepted. (18 marks)