

ENGINEERING TRIPOS PART IIB
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Monday 3 May 2004 9 to 10.30

Module 4E6

ACCOUNTING AND FINANCE

*Answer not more than **two** questions.*

All questions carry the same number of marks.

Submit all workings.

Calculations are to be made to the nearest £, unless told otherwise.

*The **approximate** percentage of marks allocated to each part of a question is indicated in the right margin.*

Attachments:

Special Data Sheet (2 pages)

You may not start to read the questions printed on the subsequent pages of this question paper until instructed that you may do so by the Invigilator.

(TURN OVER

1 Finale (Lake District) plc has received an enquiry from a customer for the supply of 500 units of a new product, the 'phell'. Negotiations on the final price to charge the customer are in progress and the sales manager has asked you, as the management accountant, to supply her with the most up-to-date relevant cost information. If the price were to be acceptable to the customer, production of the phell would start shortly and would be completed within ten to twelve weeks.

The following information is available:

a) Each unit of phell requires the following raw materials

Raw material type	
Jey	4 kgs
Kay	6 kgs

b) The company has 5,000 kgs of Jey currently in stock. This material was purchased last year at a cost of £7 per kg. If not used in the manufacture of phells, the stock of Jey could either be sold for £7.50 per kg or converted at a cost of £1.50 per kg, so that it could be used as a substitute for another raw material called Lig, which the company requires for other production. Lig can be purchased at a current price of £9.50 per kg and Jey for £8.25 per kg.

c) There are 10,000 kgs of raw material Kay in stock valued on a first-in first-out basis at a total cost of £142,750. 3,000 kgs of the current stock were purchased six months ago at a cost of £13.75 per kg and the balance of the stock was purchased last month. Kay is a material that is used regularly by the company on normal production work. Since the last purchase of Kay a month ago, the company has been advised by the supplier that the price per kg it charges for Kay has been increased by 4%.

d) The company absorbs production overheads by a machine hour rate which is currently £22.50 per hour, of which £8.75 is for variable overheads and the balance for fixed overheads. If production of phells is undertaken, it is estimated that fixed costs will increase by £4,000 in total for the duration of the work. Spare machining capacity is available and each unit of phell will require two hours of machining time in its manufacture using the existing equipment. In addition, special finishing machinery will be required to complete the phells in their final two weeks only of manufacture. This machinery will be hired at a cost of £2,650 per week.

cont'd

e) Each unit of phell requires the following number of labour hours in its manufacture:

Type of labour	
Skilled	5 hours
Unskilled	3 hours

Skilled labour is paid £8 per hour and unskilled labour £6 per hour.

f) There is a shortage of skilled labour, so that if production of phells goes ahead it will be necessary to transfer skilled workers from other work to undertake it. The other work on which skilled operatives are engaged at present is the manufacture of Thirls. The selling price and cost information of Thirls are as follows:

	£/unit	£/unit
Selling price		100
Less: Variable costs of production		
Skilled labour	24	
Other variable costs	31	
		<u>(55)</u>
		<u>45</u>

g) The company has a surplus of unskilled labour operatives currently employed and paid. It is estimated that there are 900 hours available during the period of the contract. The balance of the unskilled labour requirements could be met by working overtime, which is paid at £9 per hour.

h) £3,250 has been spent already on the development work for the production of phells. It is estimated that before production of the phell is started, a further £1,750 will need to be spent, making a total development cost of £5,000.

Requirement:

Prepare a report for the sales manager which includes a statement that clearly identifies the relevant costs associated with the production of 500 units of the phell. Explain briefly but clearly for each figure incorporated into the statement the reason and basis for its inclusion. State in the report the absolute minimum price that the company should be prepared to accept for the 500 phells (i.e the price that would just equal the total relevant costs of production). [100%]

(TURN OVER

2 Ladenis has produced his budget for the coming year based on the manufacture and sale of 6,000 Nicos as shown below:

	£
Manufacturing costs	
Variable	48,000
Fixed	72,000
Selling and administrative costs	
Variable	36,000
Fixed	60,000
Profit	24,000
Sales revenue	240,000

Demand is seasonal and at the end of each year Ladenis runs down his stock levels to zero. Production and sales figures for the first three months of the year are estimated as follows:

Month	<i>January</i>	<i>February</i>	<i>March</i>
Production (units)	500	400	300
Sales (units)	300	400	400

Ladenis currently uses an absorption costing system but is considering changing to a marginal costing system.

Requirements

- a) Produce budgeted profit statements for the first three months, both individually and in total, using an absorption costing format. [35%]
- b) Produce a revised set of statements using a marginal costing format. [30%]
- c) Reconcile the profit figures in (a) and (b). [15%]
- d) Discuss the relative merits of the two systems. [20%]

3 a) What are the 'fundamental accounting concepts', and why are they so important? [50%]

b) What do you understand by the term 'creative accounting'? Discuss, using examples, how different 'creative accounting' techniques have been used by companies over the last few years. [50%]

END OF PAPER

Discounting

(1) Present value of £1

$$1/(1+r)^n$$

(2) Present value of an annuity of £1

$$(1/r)(1-(1/(1+r)^n))$$

where r = interest rate

n = number of years

APPENDIX - FORMULAE AND INTEREST TABLES



<i>Interest Rate Pa</i>	<i>Number of years n</i>	<i>Present value of £1 receivable at the end of n years</i>	<i>Present value of £1 receivable at the end of each of n years</i>
1%	1	0.990	0.990
	2	0.980	1.970
	3	0.971	2.941
	4	0.961	3.902
	5	0.951	4.853
	6	0.942	5.795
	7	0.933	6.728
	8	0.923	7.652
	9	0.914	8.566
	10	0.905	9.471
5%	1	0.952	0.952
	2	0.907	1.859
	3	0.864	2.723
	4	0.823	3.546
	5	0.784	4.329
	6	0.746	5.076
	7	0.711	5.786
	8	0.677	6.463
	9	0.645	7.108
	10	0.614	7.722
10%	1	0.909	0.909
	2	0.826	1.736
	3	0.751	2.487
	4	0.683	3.170
	5	0.621	3.791
	6	0.564	4.355
	7	0.513	4.868
	8	0.467	5.335
	9	0.424	5.759
	10	0.386	6.145
15%	1	0.870	0.870
	2	0.756	1.626
	3	0.658	2.283
	4	0.572	2.855
	5	0.497	3.352
	6	0.432	3.784
	7	0.376	4.160
	8	0.327	4.487
	9	0.284	4.772
	10	0.247	5.019
20%	1	0.833	0.833
	2	0.694	1.528
	3	0.579	2.106
	4	0.482	2.589
	5	0.402	2.991
	6	0.335	3.326
	7	0.279	3.605
	8	0.233	3.837
	9	0.194	4.031
	10	0.162	4.192