ACCOUNTING FOR DECISION MAKING

Professional 1 examination
9 June 1999

From 2.00 pm to 5.00 pm
plus ten minutes reading time from 1.50 pm to 2.00 pm.

Instructions to candidates

Answer ***four*** *questions in total: Question* ***one*** *from Section* ***A****, and* ***three*** *questions from Section* ***B****. The marks available for each question are shown in italics in the right-hand margin.*

All workings should be shown. Where calculations are required using formulae, calculators may be used but steps in the workings must be shown. Calculations with no evidence of this (for example, using the scientific functions of calculators) will receive no credit. Programmable calculators are not permitted in the examinations room.

Formula sheets, statistical tables, graph paper and cash analysis paper are available from the invigilator, where applicable.

SECTION A (Compulsory)

1 Quaffers plc has three business divisions: a series of wine shops across the UK, a wine importing division and a division specialising in wine tasting courses. They wish to conduct a detailed appraisal of the performance of each division, but first, the company wishes to improve its system for attributing Head Office costs to these divisions.

Head Office costs relate to the following departments: Senior Management; Information Technology; Finance ; Personnel. Recharges have been determined for all departments except Personnel. It is recognised, though, that these departments provide services to each other as well as to the three business divisions, but the firm have so far chosen to ignore such relationships and are attributing all Head Office costs **directly** to the business divisions.

For Personnel, there is a view that the range of activities suggests a need for a fairly sophisticated costing method, though the Director of Finance is keen that simpler alternatives are explored too. Work has been done over the course of a year to identify the activities of Personnel and the time spent by Personnel staff on each activity:

Activity	**Proportion of staff productive time (%)**
Recruitment	25
Disciplinaries	12
Staff grievances	6
Processing staff leavers	5
Reviewing staff appraisals	5
Running internal training courses	17
Personnel administration (1)	20
Responding to ad hoc queries	10

Note (1) This includes a range of activities including reviewing legislation, producing and monitoring statistics and staff development activities. The cost of this should be charged on an appropriate basis to other Personnel activities.

Direct personnel costs can be broken down as follows:

	Budgeted cost (£)
Staff	1,800,000
Recruitment advertisements	300,000
Office supplies	250,000
Internal training course materials	50,000
Legal advice (relating to disciplinaries)	50,000
External staff development courses for personnel staff	50,000
	2,500,000

The following information is available about the three business divisions:

	Wine Shops	Wine Importing	Courses
Direct cost (£)	10m	3m	2m
Staff numbers	800	100	100
Staff training days	3000	220	280
New recruits	420	5	25
Staff leavers	500	25	25
Queries: relative time spent	70%	20%	10%

- **Requirement for question 1**

(a) Determine recharges of Personnel's direct costs to the three business divisions using:

(i) Staff numbers as the recharge basis for all Personnel costs.
(ii) An activity-based approach, clearly showing your methodology and assumptions.

16

(b) Comment briefly on the results in (a) and discuss a number of ways in which the firm's costing and charging methodology may be further developed.

9

(25)

SECTION B (Answer three questions)

2

Whynose plc operates a divisional structure for its manufacturing activities. Each division is responsible for its own manufacturing, sales and marketing decisions and is set up as a profit centre. Two divisions, W and Y, are in disagreement over the price Y should pay W for the Semion, a key input in one of Y's final products, the Sirra.

Y has the opportunity to fulfil a profitable order for 20,000 Sirras, each unit requiring one Semion, in the early part of next year. Other than up to 6,000 Semions from a foreign supplier offering to charge £11 per unit, W is the only potential supplier of Semions. Division W currently only sells Semions to purchasers outside the company, charging £18 per unit, and expects to sell 86,000 Semions externally next year. The factory has capacity to make 100,000 Semions a year.

Division W has offered to supply the 20,000 Semions to Division Y at the normal external selling price, less the variable distribution costs which would not be incurred on internal transfers. Division Y, though, wish to pay no more than Division W's standard variable cost (excluding distribution costs) plus a 40% mark-up. As a compromise, the centrally-based company Finance Manager suggests the transfer price is set at Division W's full unit cost.

Division W's costs, and activity, relating to Semions over the last two months have been:

	Month 1	**Month 2**
Sales (units)	5,000	6,000
	£	**£**
Direct costs	43,000	47,000
Divisional overheads:		
Management	10,000	10,000
Capital charges	2,000	2,000
Maintenance	1,300	1,500
Sales/Distribution:		
Salaries	12,000	12,000
Distribution	11,600	12,800
General overheads	6,000	6,000
	85,900	91,300

- **Requirement for question 2**

(a) Calculate each of the three proposed transfer prices. *9*

(b) On behalf of the Finance Manager draft a short report to the managers of Divisions W and Y in which you:

(i) Comment on how each transfer price calculated in (a) might affect decisions made by both divisions regarding internal trading. *9*

(ii) Outline the potential conflicts inherent in transfer pricing decisions, and explain on what basis you consider that the transfer price for Semions should be set in these circumstances. *7*

(25)

3

Hoedown plc makes garden furniture and equipment for the UK and overseas markets. Overseas orders are highly unpredictable, and so budgets are based on expected UK demand alone. Any 'special orders' from overseas are evaluated as and when they arise. UK demand is quite seasonal, so there are often months with spare capacity.

The main product of the garden furniture division is luxury sun loungers (LSLs), for which the following data exists about unit costs for different output levels:

Monthly Production (units)	30,000	40,000	50,000	60,000	70,000	80,000 [(3)]
	£	**£**	**£**	**£**	**£**	**£**
Materials	10	10	10	10	10	10
Direct labour	12	12	12	12	12	12
Divisional overheads:						
Labour-related	6	6	6	6	6	6
Other	3.33	2.5	2	1.67	1.43	1.25
Factory overhead [(1)]	6	6	6	6	6	6
Factory cost	37.33	36.50	36	35.67	35.43	35.25
Selling and Admin overhead [(2)]	18.67	18.25	18	17.84	17.72	17.63
Total cost	56.00	54.75	54.00	53.51	53.15	52.88

Notes:

(1) Factory overhead represents items such as rent and rates and is absorbed on the basis of 50% of direct labour cost.

(2) Selling and administrative overheads are fixed costs that are planned to be absorbed at 50% of factory cost.

(3) Total monthly maximum capacity is 80,000 units.

The company is to choose between three list prices for UK customers for the coming year, the current year's price being £75 per unit:

Price (£)	**Forecast Annual Demand (000's)**
72	720
75	680
80	600

The company aims to maximise profit. In the current year a number of 'special orders' from overseas customers were fulfilled. These orders are controversial as many feel that they are disruptive and that they often should not be undertaken, and certainly not at below the price charged in the UK.

One such order, from Arbreville plc, was for 20,000 LSLs at £65 each in a month when demand from regular UK customers was 60,000 units. Another order, from Lefleur plc, was for 30,000 modified LSLs. The modified product required 50% extra direct labour input compared to the normal LSLs, though other inputs were as normal. It was priced at £80 per unit. This order was supplied in a month when demand from regular UK customers was for 70,000 LSLs and so regular orders for 20,000 units were not fulfilled. All overseas orders incur extra transportation and related costs of £20 per unit. There are rumours that Hoedown will be offered these orders again this coming year.

- **Requirement for question 3**

(a) From the three list price options given, determine the optimum unit price for LSLs, ignoring any 'special orders' that might be forthcoming. Comment briefly on your results.

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(b) Assuming that the orders from Arbreville and Lefleur are placed again in the same circumstances next year, evaluate the **minimum price** that can be charged to each customer in order to break even on these orders.

5

(c) As the firm's Management Accountant, draft a memorandum on behalf of the Finance Director to be sent to all staff, which explains the methodology and principles used above in determining the approach to, and pricing of, such overseas orders, using the two overseas orders for illustration.

10

(25)

4 Splash Leisure Ltd runs a swimming pool in premises owned by Sturtshire County Council, located on a run down housing estate. A decision has been made to replace pumping equipment at the pool. The company has capital funds available in the current financial year. Two possible suppliers have been identified (see below). A choice needs to be made between the two but it is complicated by uncertainty about the longer term future for the pool.

There is the possibility of re-generation funds being made available to the County Council for the estate. This would result in the demolition of the existing pool in 3 years time. The probability of this happening is estimated to be 60%. If re-generation funds are not allocated to the estate the pool will continue in operation for the foreseeable future.

The two potential suppliers of pumping equipment have provided price quotations which are summarised below:

> TKZ Mechanics plc offers a high quality unit at a capital cost of £110,000. It has an expected life of 5 years after which it would have a scrap value of £35,000. Maintenance for the first year is free, under warranty; after that it is charged at £10,000 a year payable annually in advance. If this model were installed and the building were then demolished after three years, it could be sold at that time for an estimated £45,000.
>
> Commercial Pumps (Sturtshire) Ltd offers an adequate but lower quality unit with a useful life of only three years. This unit is only available on an annual hire basis at a charge of £40,000 per annum, increasing annually in line with inflation. As a special promotion for deals signed in the next 3 months, the annual hire charge would be payable 12 months in arrears. The hire charge includes maintenance.

Splash Leisure pays corporation tax at 30%. Capital allowances would be available on the pumping unit, if it were purchased, at 25% per annum on a reducing balance basis. The first capital allowance would arise in the first year that the equipment was used. You should assume that corporation tax is paid at the end of the year to which it relates.

Splash Leisure has a policy of appraising capital investment decisions using a discount rate of 10% (in real terms). All figures quoted are at current prices.

- **Requirement for question 4**

You are required to prepare a report for the Directors of Splash Leisure in which you:

(a) Prepare a financial appraisal of the two alternative suppliers' quotations, taking account of the uncertainty about how long the existing pool will continue in use. *15*

(b) Explain how the results of your appraisal can be used by the Directors to help them choose between the two suppliers. *6*

(c) Draw attention to any assumptions you have made. *4*

(25)

5

Blarton District Council is considering opening its own print unit. At present all its printing work is purchased from the County Council. Jobs are charged for individually by the County and the total annual charge to Blarton is currently £236,000. The capital cost of the new print unit would be £350,000. It would have an expected life of ten years with no residual value. Running costs for the new unit have been estimated at current prices, assuming the same level of activity as at present:

	£
Staff costs	110,000
Supplies and services	65,000
Overheads	38,000

The overheads figure is based on the authority's general policy for allocating indirect costs. Generally, the establishment of the new unit is not expected to increase the authority's total overheads. However, the rooms in which the unit will be located are currently let to a local voluntary group at an annual rent of £10,000 (payable in arrears). The group would like to continue to use the rooms but is aware that they will have to find new premises if the authority needs them for the new print unit.

Blarton's current financing position is as follows:

- £1 million of irredeemable loan stock at a fixed rate of 8.5% per annum, with a current market value of £1.1 million.
- £2 million of other loans at 7% per annum.

Provisional approval has been given for the additional borrowing of £350,000 which would be required to fund the new unit. The interest rate on this loan would be 7.25%.

You are a member of a group set up to appraise the proposed new unit. There has been an inconclusive discussion within the group about what discount rate to use for the appraisal. One view is that the Treasury test discount rate of 6% would be appropriate. An alternative idea is that the interest rate on the new loan would be a better figure. A third idea is to use the authority's weighted average cost of capital.

You should assume that inflation will be 2.25% for the foreseeable future. Blarton District Council is not subject to corporation tax.

- **Requirement for question 5**

(a) Calculate the authority's weighted average cost of capital in real terms, as it would be if the additional £350,000 loan were to be taken. *8*

(b) Recommend what discount rate should be used for the purpose of appraising the new unit, and explain your reasons, taking account of the various views which have been expressed. *5*

(c) Calculate the net present value of the unit using your recommended discount rate, rounded up to the nearest 1%. *6*

(d) Explain the result of your net present value calculation and any risks that would be involved in basing a decision on it. *6*

(25)