ACCOUNTING FOR DECISION MAKING

Professional 2 examination
4 December 2001

From 10.00 am to 1.00 pm
plus ten minutes reading time from 9.50 am to 10.00 am.

Instructions to candidates

Answer ***four*** *questions in total.* ***Question 1*** *from* **Section A**, *and* **three** *questions from* ***Section B.***

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

DBB, a limited company, commenced trading in 1995 and has now operated in the business education market for six years. The company offers a varied portfolio of courses both within its own premises and in-house provision for interested organisations.

The organisation's mission statement is:

"The provision of quality accounting training to our clients whilst providing a satisfactory return to the company's shareholders".

A number of key targets have been set for the medium term including:

- Growth in sales of 6% per annum (both in "mainstream" courses and custom designed courses for clients).
- Pass rates of 5% above the national average for externally examined courses.
- A return on capital employed of 10%.
- Investment in Information Technology infrastructures of 2% of sales earned in a year (to remain competitive by being "state of the art" in this area).

The organisation's main product area is in offering tuition towards acknowledged professional bodies' examinations. However the organisation has also sought to develop new courses to meet what they see as large potential markets.

The organisation has developed geographically such that it now operates in three cities: London, Birmingham and Aberdeen. The Birmingham office has been in existence for six years, whilst London has run now for four years and Aberdeen for three. Each of the training centres is managed by a centre manager. For the first four years of the organisation's existence, the directors at head office in Birmingham kept control of the entity centrally within its head office in Birmingham. However as from 2001 the company has adopted a decentralised structure with each of the training centres being left responsible for many areas of decision-making. This has also led to a change in the method of accounting with each of the divisions being accounted for separately.

The office in Birmingham provides the administrative headquarters for the company including the accountancy, personnel and policy making functions, whilst also being itself a training centre. However from an accounting point of view the Birmingham training centre is kept entirely separate from all of the head office administrative functions. Thus the training centre is treated in identical fashion to the other two training centres. The centre managers report on a quarterly basis to the company board regarding their performance.

The company has a number of central policies, which are decided by senior management at Birmingham, to which the centres must adhere. These include:

- The running of prescribed courses for a number of qualifications whose examinations are set externally by professional bodies. The company refers to these courses as "Mainstream" courses. Head office co-ordinates the teaching materials for these courses as well as providing guidance on the prices for these courses (the guidance being the same for all of the centres) and the hours of tuition that these students will receive. All centres run an identical suite of "Mainstream" courses using the same teaching materials with the same tuition time allocated to the students for each course. The publicity materials for these courses are also generated by the head office.

- The administrative function for all of the tuition centres being run from the head office. Thus student enrolments and billing are all centrally administered.

- The development and printing of all teaching materials for the "Mainstream" courses being provided by the head office staff.

- The marketing of the "Mainstream" courses being publicised countrywide by head office.

The training centre managers have a level of autonomy, making decisions on:

- Staffing: Staff are recruited by the local training centre managers, although central guidelines lay down the minimum qualifications required and payscales. All centres use full time staff to tutor on the mainstream courses with each staff member being required to teach between 650 and 700 hours per annum. Staff are paid extra for any teaching above the "Mainstream" courses.

- Premises: The training centres are all in rented accommodation. Centre managers have the power to decide on the premises that they utilise. However, it should be noted that when the centres were initially set up the company entered into ten year leases for each centre.

- Training centre running costs eg maintenance.

- Staff development and training.

- Revenue generation other than the "Mainstream" courses. The preparation of materials, staffing and marketing of these courses is left entirely to the centres. However the courses' pricing structure must adhere to a common system such that all incremental costs are recovered as well as a mark up of 100% onto these costs to cover an element of central as well as local overheads.

- Pricing guidance is given by head office for "Mainstream" courses. However centre managers are allowed to set prices in relation to their own locality and customers.

In the past, prior to the decentralisation, the head office considered performance from a perspective of the company as a whole. The emphasis was almost entirely on financial performance with Return on Capital Employed and Residual Income being a primary focus. Recently, however, one of the directors attended a workshop, which considered the use of a “balanced scorecard” approach. The director has sent a briefing document to fellow directors at head office as well as the training centre managers. This memo stated that:

“As of this year, performance measures should consider the four perspectives as outlined within Kaplan and Norton’s balanced scorecard approach”.

The director requested that information be gathered to assist in this process. The following tables (tables 1 and 2) have been collated showing some currently available information on the centres and the company, which should be used as the raw data for the review of the performance of the different centres as well as the company as a whole. It is noted that the central costs have been entirely reallocated to the tuition centres although it is somewhat unclear as to how these allocations have been made. This central administration cost covers all central administration costs, senior management costs, strategy setting etc. including both staff time, premises costs related to the administration function and other general expenses.

At a recent training centre managers’ meeting it was felt by the managers that the charging of the head office overheads against the centres was unfair as they did not have any influence over these costs. The managers were of the opinion that they should be accountable for all of the costs and income under their control and that any Return on Capital Employed or Residual Income calculations should be based on these figures.

There is some disagreement at board level as to the benefits of the restructuring that took place decentralising the control of the company. The marketing director has recently stated his dissatisfaction with the results since the decentralisation of the company.

“I remain to be convinced that the benefits from decentralisation are not outweighed by the costs and inefficiencies inherent in such a set up. This is clearly borne out by the recent results. I am also of the opinion that the leadership of the different centres does not provide the same focus and drive as was given by the centre in the past”.

One of the fellow directors who had been a leading player in the restructuring decision believes that the policy has been beneficial and that the problem has been the management of the Aberdeen site. At a recent board meeting he explained that:

“The Aberdeen centre has been a disappointment primarily because we have appointed a manager who is not leading the staff in achieving the enormous potential that was identified when we made the decision to open in that area. The recent loss for this centre adds to my conviction that the manager should be replaced”.

Table 1: Financial data for performance measurement review	1998	1999	2000	2001			
	DBB £000	DBB £000	DBB £000	Birmingham £000	London £000	Aberdeen £000	DBB Total £000
Income from mainstream portfolio of courses	1,500	2,000	2,200	850	800	650	2,300
Contribution from mainstream courses	350	725	872	310	287	219	816
Income from other courses	200	250	300	200	100	50	350
Contribution from other courses	100	138	167	109	47	22	178
Central Administration costs (now recharged to tuition centres)	-250	-470	-575	-210	-210	-210	-630
Tuition centre premises related costs	-150	-160	-170	-70	-60	-50	-180
Staff training	-20	-20	-20	-12	-6	-0	-18
IT infrastructure development and maintenance	-20	-30	-30	-20	-20	-0	-40
Net profit	10	183	244	107	38	-19	126

Table 2: Other data for performance measurement review	1998	1999	2000	2001			
	DBB	DBB	DBB	Birmingham	London	Aberdeen	DBB Total
Student numbers registered on “Mainstream” courses	1,000	1,300	1,350	490	440	370	1,300
Student numbers on other courses	150	180	190	110	60	50	220
Average class size	35	33	31	35	34	24	32
Average pass rates for the College	62%	64%	60%	54%	59%	68%	59%
Average pass rates for the UK using weightings of student numbers similar to the company for comparability purposes	54%	56%	55%	55%	55%	55%	55%
Number of non-mainstream new courses introduced per year	7	5	3	4	3	1	8
Number of student/employer complaints	37	40	42	28	15	6	49
Square metres of space for tuition	1,200	1,600	1,600	600	600	400	1,600
Occupancy of tuition rooms during daytime working hours	65%	75%	80%	84%	78%	84%	83%
Staff turnover (Staff leaving/Average staff numbers employed)	.15	.13	.14	.22	.15	.1	.17
Capital employed (£000) including a £200,000 share of head office capital employed per centre in 2001	1,000	2,000	2,500	1,200	1,000	800	3,000

- **Requirement for question 1**

(a) In the light of the marketing director's comments relating to decentralisation, outline the benefits and disadvantages that may result from such a system. *7*

(b) Calculate the Return on Capital Employed and Residual Income for the training centres for 2001. You should base your calculations on the figures that firstly take into consideration the full costs, incomes and capital employed in running the training centres and secondly those costs, incomes and capital employed you consider to be under the control of the centre managers. Comment on your findings.

(Note that the company's cost of capital is 10%) *8*

(c) Using the principles of the balanced scorecard, present a spread of 10 performance measures (in addition to those calculated in (b) above) that cover the breadth of areas of focus of this technique and the key targets of the company. Your calculations should cover the company's performance as a whole over the years (where the information makes that possible) and the individual divisions in 2001. *10*

(d) Based on your calculations in (b) and (c) above, discuss in the light of the director's comments and the strategic targets set:

(i) Whether decentralisation has been of benefit to the organisation;
(ii) Aberdeen's performance in comparison to the other divisions in 2001; and
(iii) The way forward in relation to the future of the individual training centres and the company's decentralisation policy.

15

(40)

SECTION B (answer three questions)

2

Hammel County Council have an urgent requirement to update the IT network support for the Social Service Department. Agreement has been reached at Council level that the effectiveness of the services offered to the community is in jeopardy unless the IT infrastructure is radically changed. As a result of this, three main suppliers were asked to tender for the project based on specific requirements as laid down in the tender document. The tender document requirement covered the areas of purchase of the requisite PCs for staff, the installation and networking of the systems and ongoing maintenance. The writing of the software has recently been completed in-house and the suppliers were asked to submit on the basis of utilising this customised software as well as other more broadly used software programmes. The period of the contract for maintaining the computers to the pre-set efficiency levels has been left to the suppliers to decide in their proposals.

The financial details of the three suppliers' proposals were as follows:

	Supplier A	Supplier B	Supplier C
Purchase of requisite PCs	£70,000	£80,000	£54,000
Installation costs	£10,000	£12,000	£6,000
Annual maintenance	£8,000	£10,000	£11,000
Disposal value of PCs	£4,000	£5,000	£4,000
Period of contract	4 years	5 years	3 years

Hammel's current loan portfolio is as follows:

- £2.3 million of consolidated loan funds capital at a fixed rate of 6.5% per annum
- £3 million of other loans at 8% per annum

Provisional approval has been given for the additional borrowing of £500,000 which would be required to fund this and a number of other projects. The interest rate on this new loan would be 9%. All of the above costs of capital are nominal (or money) rates of interest.

There has been a significant amount of discussion around the discount rate that should be applied to the proposed project. One view that has been raised is that the Treasury test discount rate of 6% would be appropriate. An alternative idea that has been proposed is that the interest rate on the new loan would seem more appropriate. A further suggestion is that the organisation's weighted average cost of capital should be applied.

It should be noted that inflation is expected to be 2.25% per annum for the foreseeable future. All of the cash flows above are shown at current prices. Inflation will affect all future cash flows in a similar manner. Corporation tax is not applicable to Hammel County Council.

- **Requirement for question 2**

(a) Calculate the Council's weighted average cost of capital in real terms given that the new loan is to be taken on. *4*

(b) Recommend, from those rates suggested in the question, the discount rate that should be used for the purpose of appraising the project, giving reasons to justify your choice. *4*

(c) Calculate the net present value of the proposals using your recommended discount rate, rounded to the nearest 1%, and recommend which, if any, of the proposals should be selected. *6*

(d) What changes in the level of the following would lead to the second placed project from your calculations in (c), becoming the preferred option:

(i) Annual maintenance costs
(ii) Disposal proceeds

(Note – treat (i) and (ii) separately) *6*

(20)

3

Adelphi Health Trust has a requirement to replace its existing highly sophisticated equipment currently used to assist in carrying out blood tests for both regular and complex procedures. They have decided to lease the new equipment as they have found this to be a suitable mode of financing the requirement. At present, two different companies have approached the Trust with equipment using newly developed haematology methodology. Both suppliers have slightly different techniques but both provide a similar quality of results as per recent tests.

Biotech Company 1 have offered to lease their equipment at £75,000 per annum whilst Biotech Company 2 have offered to lease their equipment at £70,000 per annum. However, there is a great deal of uncertainty regarding the in-house variable costs of using the equipment in dealing with individual blood tests. Biotech Company 1 have stated that their controlled testing of a sample of the mix of test required by the Trust has shown that the variable chemical costs of the testing will be £2.50 on average per blood test. Biotech Company 2 has stated that their costs are only £1.75 on average per test. However the trade journals for the industry have carried out controlled tests using the equipment and have stated that the chemical test results previously quoted by the suppliers are somewhat optimistic and may vary. The journal quoted the probable variable costs for chemicals with related probabilities for each supplier as follows:

Variable costs	Biotech Company 1	Biotech Company 2
Costs as per company estimates	40%	30%
Costs 20% above the company estimates	30%	40%
Costs 40% above the company estimates	30%	30%

In addition to the uncertainty regarding the variable costs of the testing, there is also uncertainty regarding the number of blood tests. In recent years the number of blood tests has varied. A trend analysis of the last six years' requirements of blood tests has been considered as well as soundings from a number of consultants. The following estimates have been produced for an average mix of blood test requirements for the short to medium term.

Number of blood tests per annum	Probability
40,000	30%
35,000	50%
30,000	20%

It has also been noted that the staffing requirements will differ between the machines as the speed and fragility of the chemical compounds used leads to different times being taken per experiment. Biotech Company 1's equipment will require one FTE member of staff whilst Biotech Company 2's equipment will require 2.5 FTE members of staff. The payscale for the staff members is similar at £18,000 per annum with national insurance and pension contributions being an additional 15%.

It is anticipated that the same inflation rates will affect all of the cash flows associated with the equipment above.

- **Requirement for question 3**

Prepare a report to the haematology consultant comparing the two companies' equipment. Your report should include:

(a) A financial analysis justifying which of the different companies' equipment should be selected. *10*

(b) Reference to the financial uncertainties of your findings in (a) given that there may be different attitudes to risk amongst the decision takers. *5*

(c) Details of other factors that should be considered before any final decision is taken (note: no specialised knowledge of haematology is considered necessary here). *5*

(20)

4

A Central Government body's Personnel Department has in the recent past been made a separate cost centre accountable for the costs it incurs. Initially a budget system was installed providing reports quarterly to the Head of Personnel detailing the budget spend for that quarter and accumulated for the year.

However the organisation has decided to use the department as a pilot study for the use of activity based budgeting. Budgets are therefore to be prepared with the focus being on where the cost items were spent rather than on the type of expense.

The profiled budget based on traditional cost lines for the first six months of 2001 is as follows:

	£
Payroll	450,000
Office supplies	60,000
Premises related costs	100,000
IT support	50,000
Other including advertising	45,000
	705,000

The Finance Department has undertaken an analysis regarding how the above costs should be split against the different activities that the personnel department undertakes. The following split of how the different costs contribute towards the different activities has been suggested based on a sample of employee time allocations and consideration of the activities to which costs relate:

	Payroll	**Office supplies**	**Premises related costs**	**IT support**	**Other**
Pay negotiations	20%	15%	20%	30%	0%
Recruitment	30%	50%	30%	10%	80%
Second phase recruitment (Note 1)	10%	5%	10%	5%	10%
Advice to departmental managers	10%	0%	10%	10%	0%
Mediation in staff disputes	5%	5%	5%	5%	0%
Maintenance of staff records	20%	20%	20%	30%	10%
Personnel department continuing professional development (CPD)	5%	5%	5%	10%	0%
	100%	**100%**	**100%**	**100%**	**100%**

Note 1: Second phase recruitment refers to all recruitment costs incurred where the initial person placed has to be replaced within a year, for example due to the person not being suitable.

- **Requirement for question 4**

(a) Based on the above budgeted data for the department, prepared using cost lines to allocate the budget, prepare a revised budget for the first six months where the budget cost is shown by the type of activity undertaken. *3*

(b) Categorise the activities between the primary and secondary activities of the department and those that are remedial (ie caused by inefficiency within the organisation). Included within your answer should be a brief definition as to what each category (ie primary, secondary and remedial activities) may mean to the organisation. *3*

(c) At the end of the first six months of 2001 the Finance Department presents the manager of the Personnel Department with the actual expenses incurred in that period as follows:

Activity	Actual
	£
Pay negotiations	120,000
Recruitment	220,000
Second phase recruitment	90,000
Advice to departmental managers	30,000
Mediation in staff disputes	50,000
Maintenance of staff records	200,000
Staff development (CPD)	25,000
	735,000

Prepare a suitable tabular report for the Head of Personnel which analyses the budget and actual costs by activity, highlighting areas for further analysis. *3*

(d) The Head of Personnel is not concerned by the apparent overspend as he regards it as insignificant. He has responded to the overspend in an email to the organisation's Management Accountant stating:

"I am somewhat satisfied that we have managed to control our costs so close to the budget set. An overspend of £30,000 compared to the original budget set of £705,000 is hardly significant as it is only 4.3% above that budget".

Review the budget and actual figures against those which have been incurred, drawing attention to areas of concern. Your review should identify for those areas of concern the cost drivers that may be causing the costs to be incurred and the root causes behind these costs driver incidences. *4*

(e) A member of the Finance Committee has stated that she was:

"astonished at how low the cost of recruitment is. When we divide this by the number of recruitments that took place during the period this makes us much more cost effective than external recruitment agencies".

However, another member of the Committee criticised the activity based budgeting costs as it:

"only looked at the costs of the Personnel function and not the entire costs of providing the activities which are supported by other departments in the organisation".

Required: Comment on these conflicting statements. *3*

(f) Concern has been raised as to the effectiveness and efficiency of the Personnel Department in the light of this and previous periods' overspends. One suggestion that has been placed before the organisation is that of outsourcing this function. This has been regarded as being an extreme measure. A further suggestion that has been made is the use of trading accounts in order to bring greater accountability, efficiency and effectiveness.

Required: Outline what you understand by trading accounts, explaining their uses and how they may assist in greater efficiency and effectiveness of the Personnel Department. *4*

(20)

5 Anthea Buckley is Chief Executive Officer (CEO) of a large local council who recently attended a conference for public sector senior managers entitled "Contemporary Issues in Public Sector Management" at which current issues relating to the sector as a whole were discussed. During one presentation by a Finance Director of a commercial entity, Acuserve plc, the area of "lean enterprise" was to be introduced. Unfortunately the presenter had to "call it off" at the last moment due to illness. The CEO was particularly disappointed in this as it was an area of particular interest due to problems being faced in her Direct Labour Organisation (DLO). However from the outline programme the CEO was able to ascertain an overview of the presentation as follows:

"9.00 – 10.00 am

Lessons from Commercial Practice

Fergus Quincy,
Finance Director
Acuserve plc

Acuserve's implementation of a "Lean Enterprise" philosophy through cost reduction
- *The dynamics for an efficient organisation*
- *Lessons learned from Acuserve plc*
- *JIT*
- *TQM*
- *Applicability to the public sector"*

The CEO on her return from the conference has contacted you as management accountant for the organisation in order to gain an understanding of the above subject area. She has come across the terms "cost reduction" and "cost control" in the past and wonders how they may relate to the "lean enterprise" philosophy. She also included a memorandum detailing the following weaknesses in the DLO as identified by the internal auditors.

Extracts from internal audit report regarding weaknesses of the DLO:

- High levels of window and door stocks including some obsolete lines.
- High storage related costs.
- Increased levels of stockouts of line items resulting in delays to programmed work.
- Transportation inefficiencies relating to the placing of materials on site.
- Outdated work practices within the procurement, material preparation departments and on site work. (The material preparation department is an in-house function which prepares fixtures which are of non-standard size for the DLO).
- Significant amounts of rework after the preparation department and on-site functions.
- High levels of scrappage in both the materials preparation and on-site functions.
- Complaints from the general public regarding work undertaken on their properties.
- High dependence on quality inspection due to history of complaints and rework.
- **Requirement for question 5**

Prepare a briefing note to the CEO which:

(a) Clarifies the concept of “lean enterprise” stating how it relates to cost reduction and cost control. *6*

(b) Explains each of the two techniques (ie JIT, TQM) referred to in the programme. This explanation should refer to the problems being faced in the DLO and how these techniques may impact on them. *14*

(20)