CIPFA

FINANCIAL MANAGEMENT, SYSTEMS AND TECHNIQUES

Certificate stage examination

6 December 2006

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

Instructions to candidates

*Answer **six** questions in total:*
Both** compulsory questions from **Section A
Four** of the five questions from **Section B

The questions in Section A carry, in total, 40 marks
The questions in Section B each carry a total of 15 marks

All workings must be shown. Where calculations are required using formulae, calculators may be used but steps in the working 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 examination room.

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

Where a question asks for a specific format or style, such as a letter, report or layout of accounts, marks will be awarded for presentation and written communication.

AT THE HEART OF
YOUR CAREER

Section A — (Answer both questions)

1

Newborough Council has decided to convert a former primary school into an environmental study centre. The building is structurally sound and no major work is required. The main activities will involve refurbishing and equipping the centre and the work is to be carried out in house by a small project team. The Council is hoping to have the centre available for spring 2007 and has assigned staff and a budget to the project. Assuming the project begins on time it will need to be completed within 15 weeks.

The overall budget for the work is £135,000. Fixed costs have been estimated at £60,000. This is largely the cost of materials, equipment, furniture etc. Other costs are expected to be £4,000 per week. These costs cover the assigned workforce of six people as well as energy costs and other consumable items.

The project has already been analysed and broken down into the main activities required for completion. A preliminary table showing activities, precedences, staffing requirements and possible alternatives is shown below.

Activity	Preceding activity	Normal time (weeks)	Shortest time (weeks)	Cost of reduction (per week) £	Number of staff required
A	-	3	2	1,000	6
B	A	3	3	-	3
C	A	4	1	2,000	2
D	C	3	1	5,000	2
E	B	8	5	4,500	2
F	D	3	2	2,000	4
G	C	4	2	1,500	1
H	FG	1	1	-	3
I	H	4	4	-	3
J	EI	3	1	1,000	6

Reduction can be achieved through a mixture of weekend working and overtime, and changes in materials and equipment specifications. It can be assumed that any changes made will not adversely affect the project outcomes.

- **Requirement for question 1**

(a)   Draw a network diagram and use it to calculate
   - The normal project time.
   - Project costs based upon the normal duration.   *6*

(b)   Calculate the shortest time within which the project could be completed and the cost which would be incurred.   *6*

(c)   Draw a resource histogram to determine whether the shortest time could be achieved within the constraint of using only six members of staff.   *8*

                                                                         (20)

2

The High Moorland National Parks Authority is considering expenditure cuts in 2007/08. One area which is being examined closely is the provision of Tourist Information Centres. There is a widely held view amongst Authority members that the centres are not needed in some areas and that they have become an expensive luxury. This view is disputed by the manager of the Laketown Centre which is one of the larger centres under threat. She has gathered together some figures from the last four years which she hopes can be used to support a case for continued provision of the Centre.

The figures relate to the number of logged visitor enquires made in the Centre and the number of vacancies in local tourist accommodation (which has been collected as a bi-product of the provision of an accommodation booking service).

Year	Quarter	No of logged enquiries 000s	% of local vacancies
2002	Spring	7.5	34
	Summer	14.6	8
	Autumn	10.9	21
	Winter	4.8	46
2003	Spring	7.7	32
	Summer	15.5	12
	Autumn	10.8	20
	Winter	4.9	48
2004	Spring	8.2	28
	Summer	15.6	11
	Autumn	11.5	17
	Winter	5.6	51
2005	Spring	8.1	27
	Summer	16.2	7
	Autumn	11.7	15
	Winter	6.2	42

- **Requirement for question 2**

(a) Using time series decomposition (additive method) forecast the demand for logged enquires during the four quarters of 2006. *10*

(b) Determine whether there is a statistical correlation between the number of enquires and the percentage of vacancies in local tourist accommodation. Comment on the result and upon the usefulness of this information. *10*

(20)

Section B – (Answer four of the five questions from this section)

3 Competitive advantage may be defined as an organisation gaining benefit through the development of distinctive competencies. The achievement of this relies upon having an understanding of the competitive environment in which an organisation is operating, and there are a number of models and techniques which have been developed to assist organisations in this respect. One such model is the five forces model devised by Michael Porter which identifies the five forces which define the competitive environment. *Chaffey (2003, 53)* claims that information systems can play a key role in respect to these competitive forces and that information systems development is an important way in which organisations can gain competitive advantage.

- **Requirement for question 3**

(a)   Identify and explain each of Porter's five competitive forces.   *5*

(b)   Describe how information systems can be used to achieve competitive advantage.   *5*

(c)   Discuss the applicability of the concepts you have described above to the public services sector using an organisation with which you are familiar to provide illustrative evidence.   *5*

(15)

4

Environmental Garden Products (EGP) is a charity that employs people with learning disabilities to manufacture and assemble a range of garden chairs and tables, making use of recycled timber. EGP's work has expanded rapidly in recent years largely as a result of being featured in a reality television programme which resulted in products being marketed in a national chain of DIY/ garden centres. Production is now at full capacity for the factory size and the number of workers employed. It has been decided that further expansion would be difficult without compromising the basic aims and values of the organisation.

The main product uses standard metal components which are bought in packs and used in the assembly process. A recent review of production processes revealed that the ordering of components was being carried out quite haphazardly and that stock levels tended to fluctuate between being dangerously low and expensively too high. Production levels and, hence, the consumption of components are constant through the year and are likely to remain so in the medium term.

It has been suggested that the Economic Order Quantity (EOQ) model could be used to streamline the ordering process and to minimise the costs incurred in this activity.

Each garden furniture set uses four packs of components and EGP expects to make 2,000 sets over the course of a year. The cost of an order is estimated at £60. Holding costs are estimated as follows

Insurance	11p per pack per annum
Storage	8p per pack per annum
Deterioration	2p per pack per annum
Capital cost	£1 per pack per annum

The price of a pack is £10. An alternative supplier has offered to supply the packs at £9.50 but only if a full year's supply is purchased in advance at the beginning of the year.

- **Requirement for question 4**

(a) Calculate the EOQ and the number of orders required to meet annual demand for the components, and cost of using this approach.   *6*

(b) Explain how the EOQ method is able to calculate the minimum costs of the ordering process and outline the main assumptions which it makes.   *5*

(c) Could EGP make any savings by taking up the offer of the alternative supplier?   *4*

(15)

5

The summarised profit and loss accounts and balance sheets for Wainwright plc for the years 2004 and 2005 are shown below.

Balance sheet

	2004		2005	
	£m	£m	£m	£m
Fixed assets				
Equipment	4.1		6.6	
Leasehold property	1.2		1.2	
	5.3		7.8	
Less depreciation	0.7		1.2	
		4.6		6.6
Current assets				
Stocks and WIP	0.7		0.7	
Debtors	1.0		1.3	
Cash	0.5		0.1	
	2.2		2.1	
Current liabilities				
Trade creditors	0.6		1.0	
Sundry creditors	0.4		0.4	
Overdraft	0.1		0.5	
	1.1		1.9	
Net current assets		1.1		0.2
Net assets		5.7		6.8
Less:				
Creditors falling due after more than one year				
Debentures	1.7	1.7	2.7	2.7
		4.0		4.1
Capital and reserves				
Share capital				
- Ordinary shares		1.8		1.8
- Preference shares		1.4		1.4
Profit and loss account		0.8		0.9
		4.0		4.1

Profit and loss account

	2004	2005
	£m	£m
Turnover	5.2	6.2
Cost of sales	3.0	3.6
Gross profit	2.2	2.6
Expenses and interest	1.0	1.6
Profit before tax	1.2	1.0
Taxation	0.4	0.3
Profit after tax	0.8	0.7
Dividends	0.4	0.6
Retained profit	0.4	0.1

Note: purchases of raw materials are £2.1m in 2004 and £2.8m in 2005

- **Requirement for question 5**

(a) Explain the terms "gearing" and "working capital cycle". What does the gearing ratio
    measure?   *4*

(b) Calculate the gearing ratio and the working capital cycle for the years 2004 and
    2005.   *6*

(c) Comment upon the results of your calculations.

    5

n.b. use daily cost of sales for calculating inventory conversion period

(15)

6

Access Able (AA) is a not-for-profit organisation that works very closely with a group of local authority social services departments. A number of years ago AA experienced problems with their basic financial transactions systems and entered into a flexible contractual arrangement with one of their client local authorities, Kirkdale Council. Kirkdale agreed to provide AA with payroll and creditor payment processing services integrated with their general ledger system. For this service Kirkdale charges a nominal fee which has not been reviewed during the five years in which the contract has operated.

This arrangement has appeared to work quite well until the last two years. During this time there have been a number of complaints from suppliers and some have threatened to charge interest under the Late Payments legislation (although none has done so to date). There have also been problems over claiming discounts and, following a recent investigation, a number of mistakes including overpayment and paying invoices more than once, have come to light.

As it stands there is no formal contract and no provision for performance review. The issue has been raised with Kirkdale and they claim that their performance in respect of AA is in line with their general performance for creditor payments. During 2005/2006 they reported that the average time in which invoices were paid was 28 days and that there was an error rate of only 1%.

AA took a sample of invoices over a two month period and found that the average payment time of the sample was 30 days with a standard deviation of 6 days; and that of one hundred invoices sampled three had been paid incorrectly.

The General Manager of AA has been asked by the Management Board to review this area. They have asked him to raise the question of performance with the Council and also to consider the possibility of AA using an off-the-shelf system and dispensing with the arrangement with Kirkdale.

Assume that the payment times and the incidences of error are normally distributed.

- **Requirement for question 6**

As Management Accountant the General Manager has asked you for advice.

(a) Test the hypothesis that the performance in respect of average payment time and the incidence of error as revealed in the sample check is compatible with the claims made by Kirkdale Council. Use a 5% level of significance but also comment upon whether your findings would differ at 1%. *10*

(b) Outline the general advantages and disadvantages of using off-the-shelf systems and comment upon the appropriateness of using the approach in this situation. *5*

(15)

7

Southingham Council is considering refurbishing and re-launching a theatre which it has wholly owned and operated for thirty years. The required work has been costed and a ten year development plan has been produced which is based upon a shift towards providing a much higher quality of service than in the past. The refurbished theatre would provide facilities that would be much more attractive to touring companies and artists and, it is hoped, to the theatre-going public.

The impact of the development is uncertain as the theatre has experienced decline in recent years and it is feared that local people have got out of the theatre-going habit. Three scenarios have been presented in the development plan, each based upon a view taken on likely demand after completion of the refurbishment work.

The cost of refurbishment would be £1.5m and there would be additional fixed costs of £15,000 per annum over the ten years covered by the development plan.

The three scenarios are based upon high, medium and low expectations of increased demand. The net annual contribution of each is shown in the table below along with an assessment of probability which has been undertaken by a senior management group within the council.

Demand level	Increase in contribution £	Probability %
High	250,000	25
Medium	200,000	40
Low	150,000	35

The council is risk averse and has decided to use expected value in its investment appraisal. It is normal practice for the council to calculate both net present value (NPV) and the internal rate of return (IRR) of proposed investments and to use a discount rate of 6% for schemes which have commercial element, such as this one.

- **Requirement for question 7**

(a)   What does it mean when the council is described as "risk averse" and how will expected values help in this context?   *2*

(b)   Calculate the expected value of the annual contribution due to the refurbishment work.   *2*

(c)   Using the expected value figure from above calculate the net present value and the internal rate of return of the proposed refurbishment scheme.   *7*

(d)   Explain how NPV can be used to make decisions and comment upon your analysis in the light of this.   *4*

                                                                                                (15)