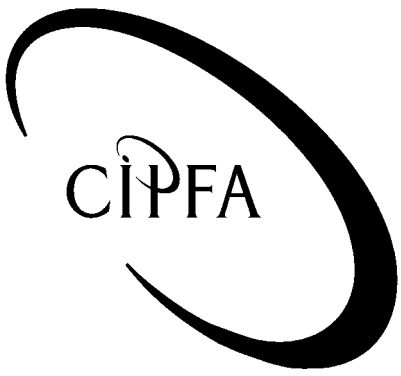
FINANCIAL MANAGEMENT, SYSTEMS AND TECHNIQUES

December 2004
Certificate stage

MARKING SCHEME



Question 1

Syllabus learning outcome B4. Study session 4.2, 4.3, 4.4

(a) Explain what a computer network is and define the terms local-area network (LAN) and wide-area network (WAN).

A computer network is a communication system that links two or more computers and peripheral devices and allows for data to be transferred between the components.

1 mark for explanation

A local area network (LAN) covers a limited and defined physical area which may be a single building or office.

1 mark for definition

A wide-area network covers a much larger area and may extend to different buildings, cities or even countries.

1 mark for definition
(3)

(b) What are the main business benefits of networks? Provide illustrations of three of these benefits drawing upon your experience of an organisation or a sector known to you.

The main business benefits of networks are:

- Less costly than traditional communications.
- Quicker information transfer.
- Allows for organisational information to be shared and disseminated.
- Allows hardware resources to be shared.
- Promotes new ways of working.
- Allows physically separated organisations to function as one.
- Improvements to security through better backing up facilities and access control through passwords etc.

1 mark for each valid point subject to a maximum of 5 marks
Other valid points may be awarded marks

Illustrations should relate to the points made in the first part of the answer and should help to provide a fuller explanation of the point. For example, the cost of sending information to another part of an organisation, possible located in another building will be less than if that information were to be sent by post or delivered personally. The information transfer would also take place much quicker. It is much easier to maintain and use a central database when it can be accessed through a networked system.

1 mark for each illustration provided it relates directly to the business benefits and helps to explain it subject to a maximum of 3 marks
(8)

(c) Explain what is meant by the terms client/server architecture, Internet protocol and application service provider.

Client/server architecture involves client computers such as PCs sharing resources with a more powerful server computer. These resources may include data and software. Processing may be shared between clients and servers.

2 marks for a full explanation

Internet protocol (IP) is a network-layered protocol which moves data between host computers. The IP allows for each computer to have a globally unique address space.

2 marks for a full explanation

An application service provider (ASP) allows an application to be hosted remotely or off site on a server owned by them. This offers great potential for reducing the costs of administering information systems through the provision of a business application service across the Internet.

2 marks for a full explanation
(6)

(d) What advantages should accrue from the use of this newer technology?

Advantages can include:

- Reduced costs.
- Improved access to more advanced applications and technology.
- Unlimited access to information across the Internet.
- Ability to link directly with a wider range of clients, businesses and other organisations.

1 mark for each valid point subject to a maximum of 3 marks
Marks can also be awarded for other valid points

(20)

Question 2

Syllabus learning outcome A1. Study session 16.1, 16.2, 16.3

Answers should be in the form of a note to the Managing director of BCD Ltd. The report should be formally addressed and headed and appropriately structured to cover the three sections of the question.

1 mark for presentation to be taken from the allocation for section (a)

The report should contain the following sections. Calculations/figures may be shown in an appendix to the note.

(a) Explain what is meant by the working capital cycle with the aid of a suitable diagram.

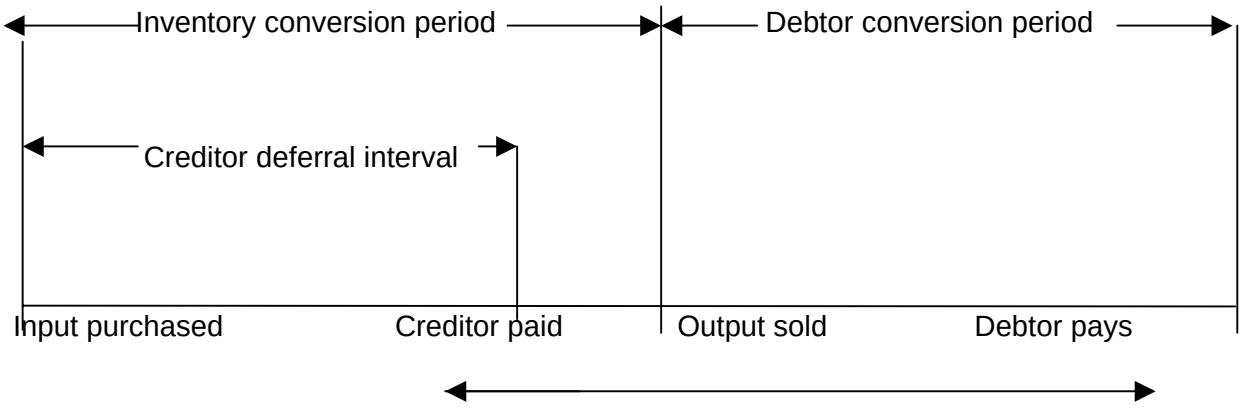
The **working capital cycle** measures the time from the initial purchase of raw material and other resource inputs through to the receipt of income. It is made up of a number of constituents. The **inventory conversion period** is the time taken to convert raw material into finished product and to sell it. The **debtor conversion period** is the time taken to collect debt on the sale of finished product. Together they are known as the **operating cycle**. However, if material has been purchased on credit there will be a delay in paying the creditor which is known as the **creditor deferral interval** or creditor conversion period. If this is deducted from the operating cycle this gives the **cash conversion period**, the time taken from outlay of payment for material to the receipt of income for finished goods.

This can be shown as:

Cash conversion cycle = inventory conversion period + debtor conversion period – creditor deferral interval.

3 marks for a complete description
(½ mark for each term defined and 1 mark for equation but subject to maximum of 3)

This can be further explained through the use of a diagram.



2 marks for diagram
(6)

(b) Calculate appropriate ratios that will quantify the firm's working capital cycle.

Inventory conversion period consists of:

Raw material conversion period = $\frac{\text{Raw material inventory}}{\text{Daily raw material purchases}}$
= 36.5 days

1

Production cycle = $\frac{\text{Average value of work in progress}}{\text{Daily average cost of goods sold}}$
= 36.5 days

1

Finished goods turnover = $\frac{\text{Average value of finished goods}}{\text{Daily average cost of goods sold}}$
= 34.3 days

1

Debtor conversion period = $\frac{\text{Debtors}}{\text{Sales per day}}$
= 45.9 days

1

Creditor conversion period = $\frac{\text{Creditors}}{\text{Purchases per day}}$
= 50 days

1

Cash conversion cycle = 36.5 + 36.5 +34.3 + 45.9 – 50 = 103.2 days

1

(6)

(c) Explain and calculates liquidity ratios.

There are two liquidity ratios which are in common use.

- The current ratio is the ratio of current assets to current liabilities. (Current assets: current liabilities.) There is not universally acceptable standard which can be applied to all organisations but a general rule of thumb is to look for a ratio of around 2:1.

- The quick ratio only considers those current assets which might be easily liquidated and therefore excludes inventory (cash + debtors: current liabilities). As above there is no general standard but 1:1 is a good yardstick.

1 mark for explanation of each of the above with comment

Current ratio = 4.2: 1
Quick ratio = 1.6:1

1 mark for calculation

(3)

(d) Comments upon the firm's current position and makes two suggestions for improvement.

Comments

- The cash conversion cycle is high largely due to a high level of inventory.
- Debtor conversion cycle also contributes to this problem.
- Creditor conversion position is quite healthy as long as this is not to the detriment of supplier relationships.
- There is no liquidity problem, in fact the liquidity ratio is too high - again largely due to inventory.
- Quick ratio is more reasonable although much of the current assets are debtors.
- Cost of holding working capital will be high.
- Creditor conversion exceeds 30 days specified in Late Payments of Commercial Debts (Interest) Act 1998

1 mark for each point subject to a maximum of 3 marks
Other valid points may be awarded marks

Suggestions for improvement:

- Improvement in stock management - raw materials and finished goods.
- Review of production processes to reduce work in progress.
- Together the above could involve a JIT approach.
- Better debt management procedures – invoicing, collection, incentives etc.
- Take more credit although this is unlikely given the favourable current position.

Priority would appear to reduce inventory.

1 mark per point (but should relate to different areas of working capital)
subject to a maximum of 2 marks
(5)

(20)

Question 3

Syllabus learning outcome D2. Study session 12.2

Answers should be presented in the form of a brief report to the officer committee. The report should be formally addressed and headed and appropriately structured to cover the three sections of the question.

1 mark for presentation to be taken from the allocation for section (b)

(a) The main generic areas that should be covered in a contract specification.

The contract specification should include:

- A detailed description of the service to be provided. This should be comprehensive, unambiguous, complete and output based and should indicate minimum service standards.
- Detail of how the contractor's performance will be assessed including measurable output based performance indicators and contract monitoring arrangements.
- Consequences of failure to meet the contract specification including financial penalties.
- Contract conditions setting out the legal framework for execution of the contract.
- Guidance to tenderers to ensure that bids are comprehensive and prepared in a comparable manner. This will include the level of detail required and the basis that the client intends to use for evaluation of the tenders.

1 mark for each of the areas outlined above
Other points could be awarded marks subject to a maximum of 5 marks for this section

(b) Discussion of how the above should be applied to a cleaning contract and an indication of how the problems reported in the current contract may be avoided.

1 mark from this section is to be awarded for presentation as stated above.

The specification should contain detail of the outputs required in terms of:

- Physical measures eg detailed specification of areas to be cleaned, floor area to be covered.
- Quality standards (including minimum standards) eg polishing of floors.
- Time constraints and frequency eg how often cleaning should take place and when, exceptions such as bank holidays.

The current contract has suffered problems over the frequency and quality of cleaning and some areas have not been cleaned at all. This should be dealt with if the specification is clear in detailing exactly what should be cleaned, how often and to what standard.

1 mark for each of the output details outlined above (up to 3 marks)
plus 1 mark for comment on the current contract. Answers must relate to cleaning services

There should be an indication of how performance will be assessed, including measurable performance criteria. Information can be collected on cleaning frequencies and a satisfaction checklist could be used eg in the cleaning of toilets. This data could be used as the basis for producing contract monitoring information for consideration on a regular basis. Monitoring arrangement may include regular meetings between the client and the contractor during the period of the contract.

3 marks for discussion of performance assessment and monitoring
Answers must relate to cleaning services

Finally the specification should make clear the sanctions that may be applied in the event of non-compliance and, in particular, it should spell out the financial penalties that can be applied. These could be calculated as an amount per day when cleaning is not carried out or failure to meet satisfaction levels.

2 marks for discussion of contract conditions and financial penalties
Answers must relate to cleaning services

In section (b) marks should not be awarded for general points already made in section (a)
(10)

(15)

Question 4

Syllabus learning outcome E3. Study session 9.2, 9.3

(a) Calculate the Net Present Value over five years of the proposal to install two ATMs.

Net present Value of proposal to install two ATMs

	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	NPV
	£	£	£	£	£	£	£
Payments							
ATM purchase	8,990						
Securit		8,840	8,840	8,840	8,840	8,840	
Other		2,600	2,600	2,600	2,600	2,600	
Total payments		11,440	11,440	11,440	11,440	11,440	
Receipts							
Machine income		13,650	13,650	13,650	13,650	13,650	
Net receipts (+)/ payments (-)		2,210	2,210	2,210	2,210	2,210	
PV factor							
Present value	1.0000	0.9615	0.9246	0.8890	0.8548	0.8219	
	-8,990	2,125	2,043	1,965	1,889	1,816	848

Alternatively this can be calculated using the annuity approach ie the net value per annum of £2,210 may be multiplied by the total of the PV factors for years 1-5 which is 4.4518 and then deducting the initial investment of £8,990.
ie (4.4518 x 2,210) – 8,990 = 848

1 mark for each correct payment/receipt (4 marks)
plus 1 mark each for calculation of PV and NPV figures
(6)

(b) Determine the Internal rate of return for the proposal.

The internal rate of return (IRR) can be calculated by interpolation. This involves estimating the IRR and calculating the NPV based upon two discount rates either side of the estimate. There is potential for alternative calculations here but the example shown is based upon discount rates of 6% and 8%.

At 6% the NPV is (4.2124 x 2,210) – 8,990 = 319
At 8% the NPV is (3.9926 x 2,210) – 8,990 = -166

1 mark for each correct calculation

$$IRR = a + \frac{[A \times (b - a)]}{A - B}$$

Where a = 6, b = 8, A = 319 and B = -166
IRR = 6 + (319 x 2) / 485 = 7.3%

Variations on the IRR are acceptable depending on the test rates chosen and the rounding of the results. *2*

(4)

(c) Comment upon the results of your calculations and suggest other factors which should be taken into account before reaching a decision. What are the relative merits of the NPV and IRR approaches?

Comments and other factors:

- Both methods indicate that the investment would be justified. The basic decision rule for NPV is that a positive NPV should be accepted.
- Whilst the cost estimates should be accurate the receipts figure depends upon assumptions on usage over the five-year period. This involves an element of risk which could be recognised in the analysis either through giving the figure a probability weighting or through conducting a sensitivity analysis showing the effects of lower/higher estimates.
- There are working capital management implications for the stocking of the cash machines, as they will involve tying up £10,000 of cash.
- There may be additional benefits to the Trust in encouraging a higher spend in other commercial facilities such as shops, cafes etc situated within the hospital.

3 marks should be awarded for consideration of relevant issues including those outlined above

Relative merits of NPV/ IRR

- NPV provides a simple decision rule and will provide an accurate result assuming the correct discount rate has been applied.
- IRR removes the need to choose a discount rate.
- NPV may be seen as being more accurate as IRR based upon interpolation assumes a straight-line relationship which in practice is not correct (however, IRR can be calculated through the use of a computer spreadsheet).

1 mark for each relevant point subject to a maximum of 2 marks
Other points may be valid

(5)

(15)

Question 5

Syllabus learning outcome A3. Study session 18.2, 18.7, 18.8

(a) Define treasury management and describe the four main activities that constitute it.

Treasury management can be defined as:

"The management of the organisation's cash flows, its banking, money market and capital market transactions; the effective control of risks associated with those activities; and the pursuit of optimum performance consistent with those risks."
(CIPFA 2001 – quoted in OLM)

The four main activities may be identified as:

- Using short-term cash flow forecasting to ensure that the organisation is able to meet its day-to-day funding requirements.
- Using longer term cash flow forecasting to identify future capital requirements.
- Managing borrowing and investment in order to finance the ongoing activities of the organisation.
- Investment of temporary surplus cash in order to generate additional income.

1 mark for a good definition plus 1 mark for each activity up to a maximum of 4 marks
Marks may be used flexibly to reward the content of the definition and/or to recognise alternative activities that a student may have identified.
(5)

(b) Why was it felt necessary by CIPFA to issue a revised code of practice in 2001?

The original codes of practice were issued by CIPFA in 1992 and 1996 along with specific sectoral guidance in between times. CIPFA identified three main reasons for issuing a revised code in 2001. They were:

- To deal with the increasing size and complexity of public sector treasury management activities and the impact upon them of greater awareness of the need for effective risk management, performance management and best value.
- To recognise the effect of the growth of cross-sectoral partnerships.
- To take into account the growing sophistication of the financial and money markets.

1 mark for each point subject to a maximum of 2 marks
other valid points may be awarded marks

(c) A key recommendation of CIPFA is that public sector organisations should write four clauses into their standing orders, financial regulations or equivalent policy documents. What is the content of these four clauses? Explain how this recommendation has been or could be implemented in an organisation known to you.

The four clauses that CIPFA recommends organisations to adopt as formal policy are:

- That the organisation adopts the key recommendations of the Code of Practice as described in Section 4 of the Code. *1*

- That accordingly the organisation will create and maintain a treasury management policy statement which states the policies and objectives of its treasury management activities, and adopts suitable treasury management practices (TMPs) that set out how those policies and objectives are to be achieved. The content of the policy statement and the TMPs will follow that provided in the code. *1½*

- That the organisation will receive reports on its treasury management policies, practices and activities and, as a minimum, these will take the form of an annual strategy and plan in advance and a report at the end of each year (in prescribed form). *1½*

- That the organisation will delegate responsibility for implementation and monitoring of its treasury management policies and practices to an appropriate board or committee and for the execution of treasury management decisions to a specific responsible officer. Both the body and the individual will be charged with acting in accordance with the organisation's policy statement and TMPs and the individual, if a member of CIPFA, will act in accordance with CIPFA's *Standard of Professional Practice on Treasury Management.* *2*

Full marks should only be awarded for a full and detailed answer
If the answer is incomplete or in note form half marks may be awarded.

The final part of this section asks students to explain how this recommendation has been implemented within their own organisation or one known to them. Failing this they may explain how it might be implemented. Marks should be awarded for a good answer which relates code of practice recommendation to the circumstances of a particular organisation.

2 marks for a good answer

(8)

(15)

Question 6

Syllabus learning outcome F2. Study session 14.4.

Answers should be presented in the form of a report to the Senior Management Team. The report should be formally addressed and headed and appropriately structured to cover the three sections of the question.

1 mark for presentation to be taken from the allocation for section (b)

(a) The main purposes of a risk management strategy.

A risk management strategy may serve a number of purposes:

- It can be a method of communicating the risk philosophy of the organisation to internal and external stakeholders.
- It explains how risk management is to be implemented.
- It details responsibilities within the overall risk management process and allocates them to individuals and departments.
- It highlights the procedures that should be adopted in the risk management process.
- It satisfies the principles of good corporate governance (and in this case the concerns of external audit).

1 mark for each point subject to a maximum of 5 marks

(b) An outline of the typical contents of a risk management strategy with an indication of what are likely to be the most difficult tasks involved in the development of the strategy.

Typical contents should include

- A risk policy statement which would include a mission statement, a summary of the procedures needed to implement the policy and a risk management organisational structure.
- Identification of roles and responsibilities indicating who us responsible for risk management activities and whether a risk management team is to be set up and, if so, what the constitution would be.
- Identification of the risks to the organisation.
- Analysis of organisational risks which would determine the likelihood, the severity and the overall level of organisational risk.
- Quantification of risks achieved through the production of a risk assessment matrix.
- Treatment of risks which would identify, evaluate and select the most appropriate options before setting out a treatment plan for implementation.
- Risk plan which identifies risks, how they are to be treated, the officer responsible, the timescale for treatment and the budgetary implications.
- Arrangements for monitoring and review.

1 mark for each area subject to a maximum of 7 marks
Marks may be awarded for alternative points or for points presented in a different way

The final section asks for the most difficult tasks to be identified. These are most likely to be the tasks which involve identifying risks and estimating likelihood and impact, and the quantification of risk. There are obviously more unknowns here and the data is much harder to access. Other tasks may be identified but it is important that there is some justification underlying the choice.

2 marks but only where there is a rationale for tasks which are chosen.

(10)

(15)

Question 7

Syllabus learning outcomes E1 and E3. Study sessions 6.4, 6.5, 9.4

(a) Using the RPI data, recalculate the out-turn figures to a 2003/04 price base and calculate the mean, mode and median values over the ten year period. What conclusion can you draw?

The first step is to recalculate the out-turn figures making use of the RPI data. This involves increasing the yearly figures in proportion in order to reflect the 2003/04 price index of 128.

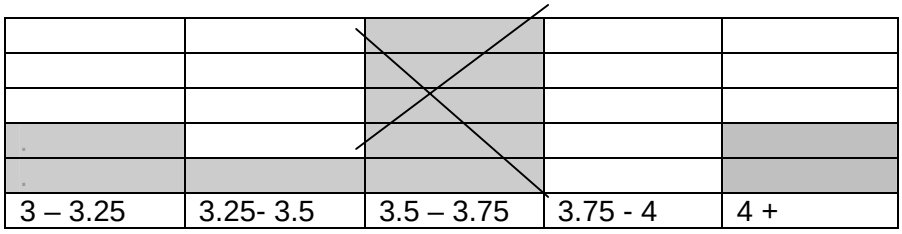
Year	Original out-turn £m	RPI	Ratio	Adjusted out-turn £m
1994/95	3.30	100	128/100	4.22
1995/96	2.55	103	128/103	3.17
1996/97	2.76	108	128/108	3.27
1997/98	3.04	110	128/110	3.54
1998/99	3.70	113	128/113	4.19
1999/00	3.19	116	128/116	3.52
2000/01	3.27	119	128/119	3.52
2001/02	3.50	122	128/122	3.67
2002/03	3.45	125	128/125	3.53
2003/04	3.15	128	N/a	3.15

Marks for adjusted out-turn figures
2

The mean is the sum of the out-turn figures for ten years divided by ten
ie 35.78/10 = 3.578

2

The mode can be estimated using a histogram, or as the most commonly occurring value (3.52). Either approach is valid.



The point of intersection is roughly around 3.6

2

The median is the middle value or in the case of an even number of data it is the average of the two middle values. Ie (3.52 + 3.53) / 2 = 3.525 *2*

The main conclusion is that all three measures of average are quite similar and they are all below the figure that has been used for budgeting purposes.

1

(9)

(b) Determine the strength of the relationship between the temperature figures and the adjusted out-turn figures. Calculate the correlation coefficient for the relationship.

The correlation coefficient provides a measure of the strength of the relationship between two variables. The calculation needs to be completed for the minimum and the maximum temperatures.

Adjusted out-turn x	Temp y	x^2	y^2	xy
4.22	5.50	17.81	30.25	23.21
3.17	7.00	10.05	49.00	22.19
3.27	4.25	10.69	18.06	13.90
3.54	4.25	12.53	18.06	15.05
4.19	6.25	17.56	39.06	26.19
3.52	6.25	12.39	39.06	22.00
3.52	6.00	12.39	36.00	21.12
3.67	6.50	13.47	42.25	23.86
3.53	6.00	12.46	36.00	21.18
3.15	6.25	9.92	39.06	19.69
35.78	58.25	129.27	346.81	208.37

The mean is given by dividing by 10 *2*

$$r = \frac{n\Sigma xy - \Sigma x \Sigma y}{\sqrt{n\Sigma x^2 - (\Sigma x)^2}\sqrt{n\Sigma y^2 - (\Sigma y)^2}}$$

$$= \frac{10 \times 208.37 - 35.78 \times 58.25}{\sqrt{10 \times 129.27 - 35.78^2}\sqrt{10 \times 346.81 - 58.25^2}}$$ *2*

= -0.015 *1*

This indicates that there is unlikely to be a correlation. *1*

(6)

(15)