THE BCS PROFESSIONAL EXAMINATIONS
BCS Level 5 Diploma in IT

April 2008

EXAMINERS' REPORT

IT SERVICE MANAGEMENT

Examiners were disappointed to find that a large number of candidates had clearly not studied the syllabus. Far too many candidates were unable to answer even one question sufficiently well to obtain a pass. In many cases such weak candidates simply provided words taken from the question and included points they could remember from their study but which had no relevance to the question set. To gain marks candidates must answer the question <u>as set</u> and not the question they would have liked to be set.

Candidates are once again urged to study the syllabus and then to test themselves, using past papers, comparing their answers against the indicative answer points provided in the examiners report.

Although some indicative answer pointers are given below for each question any alternative and relevant point was awarded a mark.

Question 1

You are a member of the IT operations team in a public sector organisation. Your manager asks you to copy a large set of data onto removable media which will be sent by the public postal service to another organisation. You are aware that this data set contains sensitive personal information about several million people.

a) Note THREE questions that you would ask your line manager before carrying out this activity. You should provide your reasoning where appropriate.

(15 marks)

b) You do not receive satisfactory answers to your questions and your manager tells you to "take it up with a more senior manager". Write a memo to the Head of Information describing your concerns and how you think the organisation should proceed.

(10 marks)

Answer Pointers

- An operation of this sort would be expected to have a formal path for authorisation. This should be visible to, and challengeable by, the person instructed to carry out the task.
- The person carrying out the task must be able to satisfy themselves that the action they take is appropriate and legal.
- The phrase "sensitive personal information" carries a strict meaning under the Data Protection Act (1998). It covers areas such as health, sexual life, trade union membership and other areas. There are specific levels of security and assurance required for the processing of this information.
- The level of protection of the data during and following the transfer must be understood and appropriate to the risk of the data being exposed.

- The mechanism for transporting the data should be determined – and challenged if necessary. Is the use and movement of removable media the most appropriate mechanism to achieve the business need?
- Should the activity be carried out within the organisation – providing access as necessary, in a controlled manner?
- The use of memo format is an important element of section (b) – as candidates need to demonstrate that they can use standard business formats.

Examiners' Comments

This question was answered by nearly all candidates, and a number of very good answers were presented. There were, however, a significant number of responses which did not provide an effective solution to the scenario presented.

Candidates need to demonstrate a strong understanding of their specific and generic responsibilities in situations such as this – and should be prepared to challenge instructions they are given if they believe that the potential impact of such instructions is not understood by line managers. In this case maybe the line manager was not aware that the data set contained sensitive information which would be at risk of loss or theft by using an unsecure method of transfer.

This is an area of IS/IT that has a very high level of public interest and concern – and candidates must ensure that they understand the full implications of this.

Question 2

Organisations can be structured in various ways. These include hierarchical, flat, product, geographical, project and matrix.

a) For the career of your choice, describe the organisational structure or structures that your organisation has in place.

(10 marks)

b) Describe how the information systems of the organisation help you to communicate with others in this structure.

(15 marks)

Answer Pointers

a) This part required the candidate to consider a particular career and where it fits in the structure of the organization.

An example could be the job of an IT project manager. The project manager sits in a matrix type structure, being career managed by the IT manager and being task managed by the manager of the area in which the system(s) are being implemented.

b) The information systems can range from simple email, to sophisticated project management software based systems. Marks awarded for demonstrating how each of these systems aid communication, particularly when the stakeholders are located at different sites.

Question 3

The company you work for, as an IT specialist, has suffered several breaks in service over the past year due to problems with the local area network. You believe that the problems were caused by a number of staff streaming high quality video to their web browsers. In your view it is this activity that has overloaded the network and caused some business applications to fail.

a) Describe THREE steps that you would take in order to confirm or deny that video streaming is actually causing the problems.

(15 marks)

b) Write an email which can be sent to all staff describing the problem and explaining why the use of network resources for non-business related activities is placing the company, and hence their jobs, at risk.

(10 marks)

Answer Pointers

- It is likely that the video streams originate outside the organisation. Either removing the link to the internet or blocking video packets at the router/firewall may be sufficient to demonstrate the problem.
- Network analysis software could be employed to record and model the daily profile of traffic around the local area network. This should probably be part of standard practice for the organisation – but the granularity of the analysis may need to be refined in order to adequately monitor video traffic levels.
- More pragmatically, a trusted set of staff could carry out a standard set of daily business activities on a non-working day – looking for peaks of traffic which would point to issues with the standard activities/applications themselves. Needless to say, these staff should not be streaming video themselves!
- There is a need to determine whether video streaming actually has a business function. It could be, for example in a financial trading room, that staff need access to video feeds from news services in order to react to changing trading conditions. Understanding the business need would enable a better modeling and resourcing of service provision.
- The use of memo format is an important element of section (b) – as candidates need to demonstrate that they can use standard business formats

Examiners' Comments

This question was attempted by the majority of candidates, and a range of solutions was presented. The spread of proposed solutions is perhaps illustrative of the wide range of technical and organisational backgrounds represented by the candidates.

A range of potentially effective technical solutions were presented by candidates, and all were judged in the context of the supporting arguments given. A number of candidates suggested that merely instructing staff not to stream video would be a complete solution – but this optimistic stance was not regarded as wholly practical by the examiners and was marked accordingly: it was judged that this would be effective only as part of more developed solution.

Question 4

a) Through the use of an example, demonstrate how an organisation with central processing is likely to have a different approach towards managerial decision making to an organisation with distributed processing.

(15 marks)

b) For a large retail supermarket chain produce a table showing the advantages and disadvantages of central processing versus distributed processing.

(10 marks)

Answer Pointers

a) With central processing, all processing occurs in a single location. This form of processing provides a high degree of control because a centrally managed system performs all the data processing.

An example which could have been used to illustrate the answer-
 An insurance company uses a global network with 10,000 employees and 8,000 agents who regularly need to access data and documents relating to client policies. The applications are considered business critical and are centralised to reduce security risks, control the issuing of policies, simplify backup & recovery and help reduce costs.

With distributed processing, managers can allocate data to the locations that can process it most efficiently.

Here an example could be-.
The CEO of an alternative insurance company, with 11,000 employees and 5,000 agents, takes the view that the local office understands the client's needs far better than headquarters. Therefore the local office can offer the best solution to the client and to do so needs to be able to process the data locally. Another advantage oif distributed processing is minimising the consequences of a disaster which would be unlikely to affect all components of the distributed system.

b)
Central Processing
　　　Advantage:
　　　　　　　Central control over all backup & recovery.
　　　　　　　All data and report production is managed from one location.
　　　Disadvantage:
　　　　　　　If system goes down ALL stores are effected.

Less likely to satisfy specific local needs.

Distributed processing
Advantage:
If a system crashes in one store, only that store is affected.
Local reports can be designed and printed locally.
Disadvantage:
More difficult to manage from an organisation wide perspective, as local IT and business professionals may tend to place local IT and business needs ahead of the organisation IT and business needs. Need for regular auditing of IT standards and policies in each location.

Examiners' Comments

a) Approximately 70% of candidates either did not read the question or had little idea of how to answer the question as set. Such candidates were unable to gain marks for one or both of the following reasons;
- Candidates failed to provide an example.
- Candidates wrote about the technical differences (IT infrastructure) instead of writing about the different approach towards managerial decision making.

b)
This part of the question was answered well by the majority and they correctly applied the scenario of the retail supermarket chain in their answer. Those who didn't apply the retail supermarket chain in their answer, were unable to gain marks as a result.
Around a third of candidates who sat the paper, attempted this question, however due to the points mentioned above only one third reached a pass.

Question 5

The server room in your organisation is being refurbished, and both the server infrastructure and the support systems are being replaced. The server hardware team intend to replace the existing servers, which are conventional rack-mounted systems, with a higher density solution based on blade technology.

a) Discuss THREE areas of the server room support systems that would need to be matched to this new server infrastructure.

(12 marks)

b) Describe in detail a test procedure that you would use to ensure that ONE of these support systems will perform satisfactorily when they become operational.

(13 marks)

Answer Pointers

- The use of blade servers can save a good deal of space compared to conventional racked servers.
- However, the use of blade servers needs careful planning and management of the server room environment.
- Heat production can be an issue. The high processor density of blade systems can give a high heat output in a relatively small area. The room air conditioning needs to be able to handle both any increased thermal load and the production of heat in particular parts of the room.
- Power consumption can also cause problems. The room may now be used to house a substantially larger number of servers, and this is likely to mean that a

larger power supply is needed. Along with this, the power conditioning and UPS/Generator arrangements will have to be upgraded.

- Depending on the context and architecture, a substantial increase in available network bandwidth may also be required – especially in applications that are I/O intensive.

- The test schedule should review in detail one area of server room support which is relevant. The schedule should describe a set of test conditions which can be assessed in terms of real-world capability. It is unhelpful, for example, to test air conditioning systems for capability in dry conditions in the depths of winter – when the real test is likely to be during a summer thunderstorm when both temperature and humidity are very high.

- The layout of the test schedule should be simple and readable.

Examiners' Comments

This question was addressed by a minority of candidates, and while a few very good answers were received a number of answers were very poor.

Most candidates were able to list the three support systems requested in part (a), but many did not extend the list into an adequate discussion (as required by the question) – and so did not score well.

Very few candidates provided an adequate test procedure for the chosen support system – and answers to part (b) in general scored poorly. The ability to provide measurable assurance that a system will operate satisfactorily once placed in service is a core component of service management in an IT context. Future candidates are advised to ensure that they can demonstrate an understanding of this important area.

Question 6

a) Explain how, or how not, a transaction processing system can provide a company with a competitive advantage.

(10 marks)

b) Your company wants to develop a customer tracking system to help identify the profitable and not so profitable customers. As the IT manager, describe THREE important issues you need to consider in helping to decide whether to develop the application in-house or outsource the development to an external software house.

(15 marks)

Answer Pointers

a) The candidate may choose to argue for the How or may choose to argue for the How not. Four points were being sought with 2.5 marks for each. The four points must support only one side of the argument.

How examples:
- Increased efficiency.
- Less prone to error over manual system.
- Promise to customers and suppliers of future electronic links, which will enable speedier and more efficient processing of transactions.
- Provides a solid foundation on which to build MIS.

How not examples:

- Competitive advantage comes from providing your customers with something your competitors can't match. A transaction processing system may well provide better efficiencies, but it doesn't give you the ability to provide your customers with something different to your competitors.
- Customers don't see how you operate internally, they see the product/service you provide. Therefore a transaction processing system (which is internally focused anyway) doesn't provide a competitive advantage.
- On its own, a transaction processing system is of no use to middle or higher management as its output is too detailed.

Too much middle management time is spent on manually summarising the reports, thus reducing the firm's ability to compete (high cost of middle managers).

b)
There were a number of issues to consider. Marks were awarded for demonstrating an understanding of THREE important issues. (5 marks for each issue explained). Such issues include;
- Financial (development costs, maintenance costs).
- Ability to manage external supplier.
- Skill set (External software house specialises in the development of customer tracking applications. Access to technical expertise).
- Risk losing competitive advantage, source code ownership (software house or own company).
- Maintenance of the system (software house or in-house).
- Is software development a core business competency we wish to have in-house?

Has the organisation decided that software development is an activity that could be improved by creating an alliance with IS organisations?

Examiners' Comments

Almost all candidates attempted this question and many gave good answers. The majority of whom answered part (a) of the question very well and almost all obtained sufficient marks to pass. A minority lost marks by merely explaining a transaction processing system which is not what the question asked for.

In part (b) candidates managed to gain a few marks by providing the text book issues, covering in-house or outsource application development. A few candidates used their experience to demonstrate clear understanding of the issues and gained further marks.