

# THE BCS PROFESSIONAL EXAMINATION

## Professional Graduate Diploma

March 2015

### EXAMINERS' REPORT

#### COMPUTER SERVICES MANAGEMENT

##### General comments on candidates' performance

There is evidence that candidates who performed best in this paper had thought carefully about the information presented and what was required for each question. They gave well-argued answers which addressed all the core parts of the question and demonstrated an appropriate professional approach in their response.

However, for some candidates there remained areas where improvements could be made. The following comments should be noted:

- **Demonstrate in-depth knowledge.** The examiners were seeking evidence that the candidate had an in-depth knowledge of computer services beyond that of the average computer user. This knowledge had to be communicated to the examiner, possibly by use of examples or reference to other relevant areas of computer services.
- **Avoid repetition.** Some candidates attempted to answer questions by repeating points previously made or by repeating points made in the question. Future candidates are advised that no marks are awarded for such efforts.
- **Answer all parts of the questions attempted.** Some candidates omitted parts of the question; for example, answering parts a) and b) and omitting part c) altogether.
- **Provide comprehensive answers.** As candidates had an hour for each question, the examiners were surprised by the number of brief and unstructured answers. Often, candidates identified valid answer points but failed to provide further expansion or examples to demonstrate their knowledge.

The answer pointers below are for guidance only; to gain full marks, they would have to be expanded. Valid alternative answers would also attract marks.

## Section A

### A1.

“Creative, disruptive openness”. This is the phrase used by the Head of the Web Design Group in the book publishing company you have just begun to work for when he describes the work environment of his team. He views this environment as an essential part of the design process.

Unfortunately, your role as Systems Administrator for the whole company comes into conflict with this ethos when you discover that the philosophy of openness extends to the issues of system administration, configuration management and the authorisation of user privileges.

a)

Write a letter to the Head of the Web Design Group outlining and expressing your concern regarding TWO of these issues, and a king for a meeting to discuss the matter further.  
(10 marks)

b)

In preparation for the meeting, write a document describing how you propose to more closely manage ONE of these areas of concern - in a manner which will not have an impact on the intellectual freedom currently enjoyed by the group.  
(15 marks)

### Answer Pointers

(a)

- The candidate is asked for a letter - so the response should be in this format.
- What is wanted is a carefully worded document which shows the author is seeking a solution which benefits both parties.
- Conflict of this type is common - but solutions are not quite as common!

(b)

- The document must be even handed, accurate and descriptive without being too technical to be understood by the customer.
- There is a need to show that the author understands the issues which the customer believes are important - or is actively seeking to understand them through dialogue.
- As a technical person, the candidate may be able to offer services which actually benefit the customer - once their trust is gained. The perceived need for freedom may be based on a false premise.

### Examiners' comments

This question was intended to test the communication skills and insight of the candidate in response to a challenging managerial environment. In many cases, the candidates used appropriate formats for their responses – but those who did not lost marks.

Some candidates scored low marks for this question, the evidence shows that this is mostly because their responses lacked the detail and depth which was needed in order to fully answer the question.

## A2.

You are the IT service manager for a medium sized insurance company based in the centre of a major city in Western Europe. One Monday morning, you are trying to get to work by public transport. You are a few hundred metres from your office building when you find that all the streets around the building are blocked by Police wearing chemical/biological protective equipment.

Access to the area is completely restricted – as the Police have been informed that a number of staff in a building nearby have become seriously ill with a dangerous, highly infectious virus. There is no estimate as to when access to your building will be possible.

Using your mobile phone, you manage to contact most of your team, and you meet in a café to discuss your next move. It is clear from the discussion that your business continuity plan is wholly inadequate to deal with a problem on this scale.

a)

List and describe the first FIVE activities you will carry out in response to this situation. State any assumptions you make.

(15 marks)

b)

Write a memo to the Chief Executive describing in detail a plan which could protect your business if a similar situation arose in the future.

(10 marks)

## Answer Pointers

(a)

- The request is for a list – but it must be annotated (describe) with appropriate supporting information to gain good marks. A bare list did not score well!
- Determine the safety of you staff as far as you are able.
- Find out whether public services (e.g. electricity supply) are still functioning in the restricted area. Are your systems still up? Is there external access to them?
- Check if you have access to off-site backups of your key systems. Determine if these will be sufficient to enable you to continue trading if a suitable hardware platform can be found elsewhere.
- Seek to make contact with senior management to “plug in” to their emergency response process.
- Determine the extent to which it is feasible to launch the business continuity / disaster recovery plan. Does it depend on access to the building, or has some external provision been made?
- Liaise with senior management regarding moving to the business continuity plan.
- Look at longer term issues of accommodation for systems and staff. Do you have partner organisations or branch offices which could take up the load?
- Seek to establish links with the command structure of the Police / civil protection agencies regarding access to premises. They may have a mechanism for accompanied/limited access to some areas.

(b)

- Memo format is asked for –marks are allocated for correct format.
- Point out that IS/IT systems do not exist in a vacuum. The only way to plan for an event on this scale is to look at the whole organizational requirement. It is not just an IT issue!

- Look at systems that allow your organization to survive events on this scale. Consider the use of warm/cold off site facilities for recovering information systems.
- Build a plan which will enable you to regularly test your readiness without unrealistic disruption to daily business.

### **Examiners' comments**

This question was attempted by the great majority of candidates and was well answered in many cases. There is evidence that in a few cases that candidates had thought in some depth about the issues raised and scored highly as a result.

Some candidates lost marks by not developing the plan required in part (b) in enough detail. The marks indicated for each section of the question are intended as a guide to the relative effort which needs to be applied to them.

Questions of this nature are intended to prepare candidates for handling versions of this scenario in real life.

### **A3.**

Companies have a significant responsibility to ensure that they trade only within legal constraints.

a)

With reference to current UK legislation, describe THREE areas of computer services management where the organisation must ensure legal compliance.  
(15 marks)

b)

Describe how you would review the operation of your computer services function in response to a new piece of legislation coming into force.  
(10 marks)

### **Answer Pointers**

(a)

- Data Protection Act
- Health and Safety at Work Act
- Computer Misuse Act
- A wide range of financial and company law
- Interception of communications legislation
- (Note – Freedom of Information Act only applies to public organisations – this question talks about “companies”)

(b)

- This is about describing a process for review and change management.
- What the legislation represents is less important than how you plan to demonstrate conformity.
- The background of the candidate will have had an impact on how this was addressed – and a wide range of solutions were equally appropriate.

## **Examiners' comments**

Although this question was relatively straightforward, many candidates who attempted it scored only poorly.

Compliance with national and international law is a key part of the work of IT professionals in a very wide range of specialisms. It is important that candidates at this level are able to discuss and debate the issues raised by this in a coherent manner.

## **Section B**

### **B4.**

You are the Computer Services Manager for a large company that plans to increase its business by purchasing another large company. Both companies have computer services departments responsible for operations and application systems maintenance. Your Chief Executive Officer (CEO) has requested that you investigate the company being purchased to determine the effectiveness and quality of its computer services.

Prepare a report for the CEO in which you describe and justify FIVE key areas of computer services that should be investigated and understood before the purchase occurs.

**(25 marks)**

## **Answer Pointers**

This question provided candidates with an opportunity to display their knowledge and understanding of key areas of computer services and describe how issues of quality of service could be assessed. There were many areas that could be described, including:

### **1. ISO 9001**

Operational excellence could be determined by asking if the organisation uses ISO 9001. This requires processes to continually measured, reviewed and improved. The following management principles apply:

- Customer focus
- Leadership
- Involvement of people
- Process approach
- System approach to management
- Continual improvement
- Factual approach to decision making
- Mutually beneficial supplier relationships

### **2. Obtain the subjective views of users**

The subjective views of the users could be obtained, possibly using one or more of the following:

- Customer satisfaction surveys
- Focus groups
- Individual interviews/questionnaires for user staff

### **3. Maturity of software processes**

Software maturity could be assessed by judging the level of maturity of the software processes within an organisation using the Software Capability Maturity Model. There are five levels:

- Level 1 - Initial
- Level 2 - Repeatable
- Level 3 – Defined
- Level 4 – Managed
- Level 5 - Optimising

SCMM describes the principles and practices underlying software process maturity. It is intended to help software organisations improve the maturity of their software processes in terms of an evolutionary path from ad hoc, chaotic processes to mature, disciplined software processes.

### **4. Policies and procedures.**

The existence and relevance of policies and procedures for computer services should be checked. These include:

- Security policy
- Internet acceptable use policy
- Access control procedures
- Disciplinary procedures
- Risk assessment policy
- Disaster recovery procedure

### **5. Staff**

The staff records could be examined to determine:

- Organisational structure
- Qualifications
- Relevant experience
- Appraisals
- Salary grades and bands
- Turnover

(5 marks per key area, maximum 25 marks. Some examiner discretion.)

### **Examiners' comments**

This was a popular question that was answered well, with most candidates writing about areas of computer services that should be assessed prior to the purchase of a large company.

Generally, there is evidence that candidates lost marks by not justifying the areas they selected. Also, a significant proportion of candidates concentrated on business and financial areas of the company, rather than on computer services.

**B5.**

You have been recruited as the Head of Systems Maintenance for a large commercial company. There is a backlog of maintenance tasks amounting to several years' work and the company's Directors believe that this backlog is adversely affecting business.

Unless given priority by a Director, maintenance work is done in date order. However, because of business pressures, most maintenance tasks are being given priority, so that your department has become overwhelmed. Also, these increased pressures have resulted in many maintenance changes being rushed and subsequently failing in live operation.

Your manager has asked you to write a report to:

- a) Describe how the outstanding maintenance tasks could be categorised. (7 marks)
- b) Outline THREE actions which could reduce the maintenance backlog. (6 marks)
- c) Explain how stakeholders could become involved in managing the priorities. (6 marks)
- d) Using examples, discuss possible reasons why the maintenance changes fail in live operation. (6 marks)

**Answer Pointers**

This question required the candidate to demonstrate an understanding of the common computer services problem of deciding how to prioritise and complete maintenance jobs.

**a) Categorisation of maintenance**

Any reasonable categorisation was acceptable. One textbook categorisation of maintenance is:

- **Corrective maintenance.** Corrective maintenance is concerned with the correction of errors resulting from system functions not working to a specification or the failure of some parts of the system. For example, information may be truncated on a report (Londo instead of London) or there may be online navigation problems. Some report types may not work at all or the system may simply fail. This type of maintenance is more frequent when new systems are implemented, or major changes are undertaken. Generally, organisations would give priority to corrective maintenance, especially if systems fail to work at all.
- **Adaptive maintenance.** Adaptive maintenance consists of minor amendments which are needed for a business to continue. These are usually caused by external events. Examples include software version changes and changes required for legislative or tax purposes.
- **Perfective maintenance.** Perfective maintenance is defined as additional functionality not identified in the original specification, or 'cosmetic' changes to improve the appearance/usability of the system. Examples include additional report types, additional information added to existing displays or reports, and introduction of new data items.

(7 marks. Any workable categorisation is accepted. Some examiner discretion.)

## **b) Reducing the maintenance backlog**

- **Gain budget approval for more resources.** Emphasise to senior management that the maintenance load can only be reduced if more resources are made available.
- **Introduce end user computing.** Provide facilities whereby users can make their own queries or develop simple departmental applications.
- **Better application systems.** Develop new systems that match current business needs, reducing the requirement for maintenance.
- **Other reasonable action.**

(6 marks. 2 marks for each action.)

## **c) Stakeholder involvement**

Let the stakeholders form a Change Control Committee responsible for allocating the maintenance resources.

The Committee should consist of representatives from each of the main departments, plus possibly supplier and customer representatives if appropriate to the organisation type.

It could be reasonably assumed they would be aware of the business pressures and priorities and would be able to negotiate with each other, rather than with the Maintenance Department.

(6 marks. 2 for each point.)

## **d) Reasons for live failures**

- Inadequate testing approach, lack of user involvement or test plan, inadequate test services, etc.
- Inadequate or small-scale test databases/files
- Lack of configuration control
- Poorly trained staff, or staff with inadequate business knowledge
- Unmaintainable/unsupported systems
- Lack of user documentation
- Poor standards

(Marks: At least three expanded points, with examples for maximum 6 marks.)

Maximum marks (7+6+6+6 = 25)

## **Examiners' comments**

This question was answered well.

For Part a), candidates described how maintenance tasks could be categorised and provided a variety of approaches that were both practical and workable, including categorisation by business benefits or business priority, size of the task and the type of maintenance required. Hardware maintenance issues were also credited with marks.

For Part b), a number of different actions were given for reducing the maintenance backlog, including preventative maintenance, improved training and more attention being given to testing.

Stakeholder involvement (Part c) was not answered as well as Parts a) and b).

For Part d), some candidates lost marks by not including the requested examples or by providing insufficient content.