

THE BCS PROFESSIONAL EXAMINATION

The Professional Graduate Diploma

April 2000

EXAMINERS' REPORT

Computer Services Management

The average mark obtained for each question was around 12 to 13 marks with around 80 to 90% of candidates passing those questions they attempted. Almost all candidates attempted question 1 with less than 40% attempting question 2.

Question 1

Following some unpleasant revelations, it becomes clear that a number of powerful individuals in your organisation have lost confidence in the IT service your group provides. They have stated their intention of removing their funding contribution from the IT group and buying services directly from a third party.

a) Discuss how such a breakdown of the customer/supplier relationship might have occurred, and how it could have been avoided.

b) Present a service improvement plan to the Board of the company which addresses the current situation. The plan should explain the advantages and disadvantages of outsourcing the IT function.

- "Powerful people" have needs you are not meeting. Did you know? Did you attempt to meet the need? Did you ignore it...?
- Talk to all sides NOW - show a positive response to the ultimatum
- How can you get these people on board? Give them an "investment" in what you are trying to achieve...
- Is there a trusted "champion" in the company who could act as a "Godfather" figure while negotiations are underway and change is managed
- Could the new services be delivered in house? If so, what changes do you need to make and how should they be resourced.
- If third party sourcing is appropriate, do the individuals want to manage the relationship with them themselves or would they welcome contract management by your team?
- Is there a combination of working practices that will satisfy all requirements?
- Service improvement plan should have very visible milestones and some "quick wins"

Most candidates provided a positive response to the ultimatum. Communication must have been lacking for the situation to reach this level - this is the key area to address in the first response. Denial is not an option at this stage!

Question 2

a). The Computer Misuse Act created three new criminal offences:

- Intentionally obtaining unauthorised access to a program or data held in a computer (the basic offence)
- Committing the basic offence with the intent to facilitate a serious crime
- Intentionally and knowingly causing unauthorised modification of the contents of a computer.

The Act was created as previously there was no effective way of preventing unauthorised access to a computer, apart from making a derisory claim for theft of electricity under the Theft Act 1968.

The second offence was to provide a heavier penalty where unauthorised access was used to commit a more serious crime, such as blackmail.

The third offence was designed to remove some uncertainty in the existing law where the Criminal Damage Act 1971 only referred to property of a tangible nature, where it could have been argued that programs or data are intangible.

b). **Other legislation** (any two required)

The Health and Safety at Work Act 1974. *Covers employers liability for personal injury sustained by employees whilst at their place of work.*

The Offices Shops and Railway Premises Act 1963. *Employers responsibility for cleanliness, overcrowding, temperature, ventilation, lighting sanitary conveniences, washing and eating facilities, seating, floors, safety in passages, stairways etc and the training and supervision of workers in the work place*

Copyright, Design and Patents Act 1988. *Protects copyright including software or hardware products*

Copyright (Computer Programs) Regulations 1992. *Extends scope of 1988 Act to include computer programs as a literary work*

Other relevant legislation also attracted marks.

A number of candidates lacked precision in their answers, using colloquial names for the Acts accompanied by vague descriptions. The few that had studied the legislation surrounding computer services gained high marks for this question.

Question 3

The service development and service support groups are finding it increasingly difficult to recruit and retain staff with the appropriate skill sets. As the manager of the two groups you are increasingly concerned by this trend.

a) In a memorandum to the Chief Executive, discuss why you believe the problem exists and provide three policy options which could be used to resolve the situation.

b) Develop a detailed implementation plan for one of the options. The plan should include mechanisms for measuring the success, or otherwise, of the policy.

- Recruit staff at a lower level and offer incentives for loyalty to the company
- Incentives could be more frequent salary review, commercial quality training, financial "loyalty" bonuses, share option schemes if appropriate
- Review promotion prospects and try to develop them by offering more varied work
- Encourage sponsored academic study
- Offer flexible working arrangements, jobshares, school holiday leave, maternity/paternity leave flexibility.
- Get feedback from established staff and leavers over what improvements/changes they would like to see.

A number of candidates lost marks because they did not provide the answer to part a) in memorandum format. The implementation plans varied in quality - but some candidates provided useful project plans and metrics.

Question 4

You work for a research and development organisation in a new "high tech" industry. Traditionally, the organisation has been run as a strictly 9 to 5 operation - with no weekend or evening working being expected. The new Head of Research believes that, in order to take a lead role in the industry, the organisation needs all its support services to be available 24 hours a day, 365 days of the year.

a) Produce a report for the Head of Research which details five areas of IT service operation that will need to be addressed in the changeover to the new regime.

b) Draft a discussion document which you can use to introduce the new situation to your staff. It should include a framework which you can use as a group to assess the impact on support policy.

- Availability of staff cover for shiftworking
- Full cover, or lower level cover with specialists taking "on calls" in rotation? How does the business requirement impact on this?
- Additional staff cover to allow this shift/work pattern
- Alternatives to traditional out-of-hours downtime for systems work - new systems switched into service seamlessly
- Higher resilience for service systems - hot-swap and warm-standby for all core services
- Review of maintenance arrangements to cover the additional service periods.
- Review of backup arrangements - there is no longer an overnight slot for routine operations

Most candidates made a good attempt at this question, but some did not give full attention to the potential human factor problems involved in this operation. Part b) of the question was intended to draw out these issues - which could be just as important as the correct technical solution.

Question 5.

This question tested the candidate's knowledge of operational analysis and capacity management.

a). Overnight Schedule.

- Check with user if all daily and weekly processes and reports are still actually required or could the frequency be extended.
- For every process remaining, document the dependencies by reference to the existing documentation and the development staff. Determine the overnight critical path and arrange ancillary processes around it.
- Housekeeping. Ensure that for older systems any file indexes etc. are kept reorganised. Discuss with the users the need for regular maintenance of files, e.g. the removal of old customers and unfulfilled orders etc. that may delay processing.
- Software. Investigate the possible use of utility software, such as security copying, to reduce the overnight batch window.
- Improve multi-streaming where dependencies allow
- Marks given for other points, if relevant and explained.

b). Hardware enhancements. The following could be considered:

- Performance monitoring of memory, processor and disc capacity to understand bottlenecks. Improvement in any one of the above could increase throughput.
- Rearrangement of databases/files across several disc devices to balance I/O traffic.
- Consideration of faster peripherals, e.g. backup devices, robot cartridge handlers etc.
- Marks given for other points, if relevant and explained

c). **FM.** This is to test the candidates knowledge of the workings of FM and the concept of flexible resource and charging mechanisms. The following points would be expected:

- FM contract to allow for flexible resourcing and charging
- Paid for on a 'as used' basis
- Would share mainframe with other users
- Would mean that computer room and most operational staff would become redundant
- Implies a long term contract with the FM company
- FM outsourcing is now an established and reliable practice
- Could save costs in comparison with mainframe expansion or replacement.

This question addressed a common situation where business growth and use of legacy systems leads to capacity problems where the computer services staff are required to take action. Most candidates correctly identified the hardware-related actions in the second part of the question. However, the operational analysis and scheduling considerations in the first part caused some difficulty. The use of facilities management appeared to be understood, possibly reflecting the candidate's personal experiences.