

BCS Higher Education Qualifications

BCS Level 5 Diploma in IT

April 2010

EXAMINERS' REPORT

Professional Issues in Information Systems Practice

General comments on candidates' performance

While the decline in the pass rate observed in October 2009 was reversed at this sitting, many candidates were still woefully ill prepared for the examination, with 13% of candidates gaining marks of less than 10% and 26% gaining marks of less than 20%. Such candidates clearly had no realistic prospect of passing the examination and were wasting their time and money by taking it.

Candidates' poor performance is all the more remarkable given that all the topics raised in the questions are clearly and explicitly covered in the recommended text.

As usual, some candidates performed extremely well and showed a real and profound understanding of the material; as a result, they gained very high marks. Such candidates were to be found at all centres.

Question 1

Suppose you are the computer services manager for a publicly funded UK college of education.

- a) Describe the alterations that might reasonably be expected to be made to your college's computing facilities to enable them to cater for students with disabilities. **(13 marks)**

Answer pointers

Appropriate access to computing facilities should be provided for students using wheelchairs. This might involve the installation of ramps or alteration of computer laboratory layout to allow wheelchair access. **(4 marks)**

Web or Intranet based information provided for students should use reasonably sized sans serif fonts with good contrast between background and foreground text. Navigation between web pages should be straightforward. Any images in the web pages should have alternative text labels. **(5 marks)**

There should be provision of appropriate assistive technologies, for example screen reader software for students with visual impairments, and hearing loops for students with hearing difficulties. **(4 marks)**

[Syllabus section 1a]

- b) You have also been made responsible for compliance with the UK Freedom of Information Act 2000 within your college. Outline what such compliance would involve. **(12 marks)**

Answer pointers

The college should draw up a publication scheme to show what information it will make public as a matter of routine and how this information will be made available to the public. The publication scheme

should be consistent with the model publication scheme produced by the Information Commissioner's Office. (4 marks)

The college should publicise the way that members of the public can make individual requests under the FoI and the fee that it will charge. It should set up internal procedures for responding to such requests within the 20 working days that the FoI specifies. (4 marks)

The college must identify categories of information that it cannot release in response to FoI requests (e.g. personal information relating to students or staff). (4 marks)

[Syllabus section 1e]

Examiners' comments

This question was attempted by 70% of candidates but only 21% of candidates gained a pass mark. Answers to part (a) generally showed some understanding of disability issues, although in many cases the coverage was narrow. Part (b) was poorly answered, largely because candidates confused the Freedom of Information Act with the Data Protection Act.

Question 2

- a) The manager of one of the best-known and most successful English football clubs writes a blog in which he regularly comments on the club's recent matches. One week, after the club has lost a critical match through a controversial goal, he writes in the blog that the referee was obviously corrupt or incompetent. The referee threatens legal action for defamation against the internet service provider (ISP) that hosts the blog.

What laws relate to the ISP's liability in this situation and what should it do in order to avoid being successfully sued?

(12 marks)

Answer pointers

The relevant law is contained in the E-Commerce Regulations 2002. These regulations identify three roles that an ISP can play, namely mere conduit, caching and hosting. Under these regulations, ISP's have no legal liability arising from material with respect to which they are acting as a mere conduit or which they are caching. With regard to content that they are hosting, they have no liability provided that:

1. it did not know anything that should have led it to think that something unlawful might be going on; or
2. when it found out that that something unlawful was going on, it acted expeditiously to remove the information or to prevent access to it, and
3. the customer was not acting under the authority or the control of the service provider.

The ISP should therefore cut off access to the blog as soon as possible and remove or render inaccessible any copies of it held on their system.

[Syllabus section 1g]

- b) Gogerddan Games is a company that develops and markets high quality computer games set in the mythical past. It markets the games through the internet and has customers all over the world. It is becoming

concerned at the possibility that competitors will try to pass off their low quality games as coming from Gogerddan.

What legal mechanism would you advise Gogerddan to use in order to protect itself and how, briefly, should it go about doing so.

(13 marks)

Answer pointers

Trade marking is the most appropriate mechanism to protect Gogerddan's name. The company needs to devise a suitable symbol or logo that customers will come to recognise and associate with Gogerddan's products. This symbol will be the trade mark; it should not resemble the trade mark used by any other company for products similar to those of Gogerddan. (4 marks)

Gogerddan needs to register the trade mark in all jurisdictions in which it has, or hopes to have, significant business. (A trade mark is only valid in a jurisdiction in which it is registered.) (3 marks)

Gogerddan must then ensure that all its games display the trade mark when they are loaded. This means its customers will become familiar with the logo and realise that it guarantees a genuine Gogerddan product. (3 marks)

Any other company that applies the Gogerddan trade mark to software in any jurisdiction in which it is registered will be guilty of a criminal offence.

(3 marks)

.

[Syllabus section 1f]

Examiners' comments

This question was answered by two thirds of the candidates. Candidates generally demonstrated an understanding of the roles that an ISP may play and of its responsibilities in the scenario described. Answers to part (b) were, however, generally unsatisfactory, with candidates failing to recognise that trade marking was the appropriate method of protection in this situation.

Question 3

Describe the purpose of each of the following financial documents. Briefly explain the content of each document and give an example from an imaginary IT company.

a) balance sheet

(13 marks)

Answer pointers

The balance sheet is a statement of the company's value at the time when the statement is drawn up, that is, its assets (what it owns) and its liabilities (what it owes). [1]

Assets are divided into fixed assets and current assets. Fixed assets are items such as property and major capital equipment that are part of the productive capacity of the company; they are not disposed of as part of normal operations but their value is depreciated annually. [2]

Current assets include cash itself and items such as stock or debtors that will be turned into cash in the course of normal operations. [1]

Liabilities are similarly divided into current liabilities and long-term liabilities. Current liabilities are items that will have to be paid in the next twelve months, e.g. outstanding invoices or short-term loans. Long-term liabilities are liabilities that do not need to be settled until after the next financial year. [2]

The balance sheet will also contain a balancing item, excess of assets over liabilities, which is the notional net worth of the company. [1]

Fixed assets

Data Centre premises, at valuation	225,000
Servers	50,000
Fixtures and fittings	12,000
Depreciation	(11,200)
	50,800
Total fixed assets	275,800

Current assets

Debtors	30,000
Cash in hand and at bank	60,000
Total current assets	90,000

Current liabilities

Trade creditors	20,000
Corporation tax	25,000
Loan repayments due in next twelve months	20,000
Total current liabilities	65,000

Net current assets 25,000

Total assets (Fixed assets + net current assets) 300,800

represented by

Called-up share capital	100,000
Profit and loss account: accumulated profit	200,800

[6]

[[Syllabus section 1c]

b) profit and loss account.

(12 marks)

Answer pointers

The profit and loss account shows the income received and the expenditure incurred during the year, excluding capital expenditure and income derived from the disposal of fixed assets. It will include items such as those in this example: [4]

Income

Fees paid by 'gold' clients(5×£30,000)	150,000
Fees paid by 'silver' clients (8×£10,000)	80,000
Fees paid by 'bronze' clients (10×£1000)	10,000

Total income		240,000
Expenditure		
Overhead expenditure		
Management and admin payroll costs	52,000	
Cost of leased company car	10,000	
Marketing	20,000	
Premises (heating, lighting, rent)	15,000	
Professional services	5,000	
Insurance	2,000	
Total overheads		104,000
Operating costs		
Technical staff costs	65,000	
Licences	10,000	
Maintenance	10,000	
Depreciation	5,000	
Total operating costs		90,000
Total expenditure		194,000
Excess of income over expenditure		46,000

[8]

[Syllabus section 1d]

Examiners' Comments

This question was attempted by 63% of the candidates with 41% of those attempting the question achieving a pass mark. By far the commonest weakness was a failure to provide suitable (or, in many cases, any) examples.

Question 4

Write brief notes on the following, and explain their meaning in the BCS context:

- a) Code of Good Practice (5 marks)

Answer pointers

The BCS Code of Good Practice is a statement of good practices in a wide range of activities that members are likely to undertake; it does not yet cover all such areas. It is intended to set the standard for activities in each of the areas it covers. The Code of Conduct expects members to operate within the Code of Good Practice.

- b) Reservation of title and function (10 marks)

Answer pointers

Reservation of title means that the title in question can only be used by holders of specific qualifications or by those whose names appear on specific registers. For example, in the UK only those registered with the

Architects Registration Board can call themselves architects. There is no reservation of title in the British IT profession, that is, anyone can call themselves a software engineer or systems analyst. However, only those registered with the appropriate bodies can call themselves CEng, CITP or MBCS.

Reservation of function means that only holders of specific qualifications or those whose names appear on specific registers can undertake certain functions. For example, the function of giving medical treatment to animals is reserved for registered veterinary surgeons. Anyone, however, can practice software engineering. There is no reservation of function in the UK IT profession. CEng can lead to registration with FEANI and thus, in practice, to the right to practice in European countries where the engineering function is reserved.

- c) SFIPlus model (5 marks)

Answer pointers

SFIPlus is a matrix in which each row corresponds to a functional speciality (e.g. communications, databases, system development) and each column corresponds to a level of responsibility, from trainee up to senior manager or consultant. Associated with a cell, there is a description of the responsibilities that persons assigned to that cell are expected to undertake and a description of the qualifications or experience they are expected to have. The model covers the spectrum of roles within ICT.

- d) Continuing Professional Development (5 marks)

Answer pointers

Individual professionals are expected to organize, and keep track of, their own CPD. The BCS organise branch meetings, specialist groups, and so on, which provide opportunities for individuals to gain CPD credit. It is expected as part of Code of Conduct that members will keep themselves up to date.

[Syllabus sections 1a, 1h and 1i]

Examiners' Comments

This question was answered by 74% of the candidates, with 34% of those attempting it achieving a pass mark. The answers showed an appreciation of these areas but without the level of detail expected, as shown in the outline answers above. Many defined the Code of Conduct instead of the Code of Good Practice in part (a). In part (b) Reservation of title was better understood than reservation of function. The link to the BCS or the UK computing profession was often missing, but examples from other countries such as the US were helpful. Part (c) was often missing but most candidates who answered it knew the model in detail. Part (d) was generally understood but not often with any detail about the process.

Question 5

- a) Most appraisals are carried out by the employee's immediate supervisor. Because the immediate supervisor may not get to see every detail of how the employee carries out his/her tasks, other people may be asked to contribute to the employee's appraisal process.

List THREE such potential contributors and explain the contribution each can make.

(15 marks)

Answer pointers

Peer assessment. Colleagues may be in a better position to judge a fellow colleagues work performance, as they see the actual behaviour of their peers on a daily basis.

Customers or users. Customers can be a useful source where the employee's job involves frequent customer contact. If there is little or no customer contact, users can provide similar information. Information can be gathered through interview, comment cards, customer complaints and even "secret shoppers".

Subordinates. Not to evaluate the detailed work, but to evaluate management style and application. However, this method is not widely used as it has the potential to undermine a supervisor's authority.

Self-appraisal. In many instances employees are asked to carry out a self-appraisal as part of their preparation for the appraisal interview.

It is worth noting that all the above are open to bias.

(5 marks for each explanation).

- b) Provide a brief explanation of each of the following techniques used in job design.
- Job enlargement
 - Job rotation
 - Job enrichment

(10 marks)

Answer pointers

Job enlargement. The breadth of the job is increased by giving the employee more than one specialised task to carry out.

Job rotation. Increases workplace variety by moving employees from one specialised job to another.

Job enrichment. Builds motivating factors into the job by adding duties (normally performed by the supervisor) into the employee's job.

[Syllabus section 1i]

Examiners' comments

This question was attempted by 81% of the candidates and 45% of the candidates attempting it achieved a pass mark. This made it by some way the best answered question on the paper. This is surprising given that most candidates were unable to say anything sensible in answer to part (a). They were, however, generally very familiar with issues of job design and answered part (b) well.

Question 6

Megasoft plc was a large software company specialising in corporate packages for the financial services industry. It recently went bankrupt and was sold to venture capitalists who have appointed you to the post of Chief Executive Officer, with the remit of rebuilding the company and bringing it back into profit.

- a) One of your top priorities is to increase substantially the revenue per employee and you aim to do this by implementing a flat organisational structure. In particular, you want the restructured company to have fewer management layers than the one that went bankrupt.

Give THREE reasons why you think the flat organisational structure will lead to higher revenue per employee.

(9 marks)

Answer pointers

There will be fewer overheads, that is, a higher proportion of the staff will be directly engaged in generating revenue.

Decisions will be taken by those who are closest to the customer and not by those who don't understand customer needs and customer business models. Therefore, pricing policy will thus better match customers' ability to pay and the benefits that they can get from using the company's software.

A flatter structure provides a wider span of control. This wider span of control helps underpin a culture of enterprise.

(3 marks for each reason).

- b) The company as it stood before it went bankrupt was highly centralised and formalised, that is, it had formal procedures and rules covering all aspects of its operations and these procedures and rules applied right across the company.

Discuss whether it would be sensible to keep these formal rules and procedures or whether abolishing some of them would be likely to help return the company to profitability.

(16 marks)

Answer pointers

Disadvantages of formalisation and centralisation

Formalisation and centralisation make an organisation less flexible, so employees follow prescribed behaviours even when the situation calls for a customised response.

Some work rules become so convoluted, resulting in a decline in the organisation's efficiency.

Employees with initiative and enterprise may leave the company because the rules stifle their initiative and stop them getting ahead.

The rules and procedures can become the centre of attention rather than the organisation's objectives.

(2 marks each)

Benefits of formalisation and centralisation

Pension schemes, professional liability insurance and similar items are usually much cheaper and more cost effective if the whole company is signed up to them.

The more that the company is centralised, the easier it is likely to be to move employees from one part of the company to the other. For example, if the company has a central policy of using Oracle for all database systems, then an employee moving from one division to another will not need to learn a new DBMS.

(4 marks each)

[Syllabus section 1b]

Examiners' comments

Only 37% of candidates attempted this question and, of those who did, only 16% achieved a pass mark. A few candidates answered the question very well.