

**BCS THE CHARTERED INSTITUTE FOR IT**  
**BCS Higher Education Qualifications**  
**BCS Level 5 Diploma in IT**

**September 2013**

**EXAMINERS' REPORT**

**Professional Issues in Information Systems Practice**

**General comments on candidates' performance**

The pass rate this sitting was pushed down by the results from one fairly large centre, whose candidates achieved a pass rate of less than 20%, and another, smaller centre from which no candidates passed. Other major centres did rather better than in the previous sitting.

It is, and always has been, BCS policy that there should be no formal requirements for entry to the examinations for its Higher Education Qualifications. It is up to centres that provide courses leading to the examinations to accept only candidates who are suitably equipped linguistically and intellectually. Many candidates fail this module badly because they have such poor skills in written English that they cannot express their knowledge or they lack the intellectual abilities to understand the material or to apply it to concrete scenarios. Indeed, many candidates write so badly that it is impossible for the examiners to determine how much knowledge, if any, they have or whether they understand the material. We would urge colleges not to allow such candidates to waste their time and money by studying for examinations that they will not be able to pass.

There are, of course, candidates who fail this module for reasons other than lack of linguistic or intellectual skills. There are several steps that those teaching candidates for this module can take to improve the pass rate among such students:

- candidates often show poor 'exam technique'. For example, they will write a five or six page answer to a part of a question that carries only five marks, thus wasting a lot of their time in the examination;
- candidates fail to read the question properly. For example, question 1 asks candidates to "explain the purpose of the BCS Code of Conduct.". Many of them spent a great deal of time describing the Code of Conduct but failed to refer to its purpose;
- candidates are unable to apply their knowledge to specific scenarios, as reflected in the answers to questions 5 and 6. There is little point in studying this material unless candidates can relate it to concrete situations that they are likely to meet in their professional lives.

All these points can be addressed in teaching. Mock exams followed by discussion of candidates' performance are effective in addressing the first two of the issues above. Devoting classroom time to discussion of scenarios is an effective way of addressing the third.

## Question A1

- a) Using TWO relevant examples, explain the purpose of the BCS Code of Conduct.

**(10 marks)**

- b) Identify THREE key roles and/or responsibilities of the BCS and, using examples, explain how these are fulfilled.

**(15 marks)**

### Answer pointers

#### Part (a)

Two explanations from the following list - five marks each.

The BCS Code of Conduct:

- sets out the professional standards required by the BCS as a condition of membership, regardless of the grade of membership, professional role or legal jurisdiction in which they work. Thus, for example, members of the BCS must not accept or offer bribes regardless of which country they are working in, what their job is, or how senior or junior they are in an organisation.
- governs the conduct of the *individual*, not the business or other relevant authority. For example, it is the responsibility of individual members to encourage and support the professional development of those working for them, regardless of the policy of the organisation for which they work.

### Syllabus section: Professional Codes of Conduct

#### Part (b)

- promoting the development of computing, and IT more generally, for the benefit of society. This is done through its journals and other publications, through the promotion of conferences and through its specialist groups;
- promotion of education in IT, through its professional examinations and its higher education accreditation activities;
- advising government on policy relating to all aspects of IT, by responding to requests and sitting on advisory committees.

There are a number of other possible roles that will be accepted.

### Syllabus section: Professional Institutions

#### Examiners' comments

This question was attempted by 88% of the candidates, 54% of whom achieved a pass mark.

In part (a) many candidates described the code at great length but failed to explain its purpose.

## Question A2

- a) Syniad Software Plc is a large and successful producer of professional level desk-top publishing packages. It operates globally and produces versions of its packages for eight different alphabets. Discuss the different ways in which the organization might be structured, paying particular reference to the relationship between the research and development function on the one hand, and sales, marketing and customer support on the other.

**(12 marks)**

- b) There is a vacancy for a senior developer in your organization's IT team and a short list of candidates has been drawn up. All the candidates on that list are regarded as being equal in terms of their formal qualifications. Describe THREE different techniques that might be used to select the most suitable candidate, indicating the strengths and weaknesses of each technique.

**(13 marks)**

### Answer pointers

#### Part (a)

It is clear that sales and customer support need to be organized on a geographical basis. There is no point in trying to run sales and support for, say, the Sinhalese version of the products from the UK or the USA.

Some marketing needs to be done centrally; it is important to get the names of the products known worldwide and this is best done through the international media. However some marketing will also need to be done locally, in particular, through media operating in the languages whose alphabets the packages support. It seems best to have a local marketing capability reporting to a central marketing function.

The organisation of the development function is the most difficult issue. On the one hand, there is a case for dispersing it geographically, because expertise in typesetting Sinhalese is much more readily available in Sri Lanka than in London, and for giving the dispersed units considerable autonomy, because the problems of typesetting Sinhalese are very different from those of typesetting English or Thai. On the other hand, this approach will lose the benefit of accumulated experience and fail to exploit the undoubted commonalities. One alternative is a centralized R&D function, with a policy of recruiting staff on a global basis.

It should be clear from the discussion above that there is no single correct answer. Marks were awarded for identifying the issues and making intelligent suggestions about how to address them.

### Syllabus section: Organisations and their Structure

#### Part (b)

Possible techniques:

- a series of one-to-one interviews with senior staff. This can be a very reliable technique, particularly if records are kept so that the accuracy of

individuals' judgement can be assessed. Unfortunately, it does not make it easy to demonstrate that equal opportunities legislation has been complied with;

- interviews by a panel including representatives of all stake holders, some of whom are 'independent'. Extensive research evidence shows that this technique is very unreliable and tends to favour the smooth talkers but it makes the process 'transparent' and makes it easy to demonstrate that equal opportunities legislation has been complied with;
- task assessment, i.e. get the applicants to carry out some of the tasks they will be required to do if they are appointed. Works well if all the tasks the applicant will be expected to carry out lend themselves to assessment in this way. If only some of them lend themselves to such assessment, there is a danger that the candidates' abilities or otherwise to carry out the other tasks will be ignored.

Other possibilities include psychometric tests and situational assessment.

### **Syllabus section: Human Resources Management**

#### **Examiners' comments**

This question was attempted by 68% of the candidates, 58% of whom achieved a pass mark.

In part (a), a common weakness was to discuss possible structures in the abstract while failing to relate them to the specific circumstances surrounding Syniad. This is just one more instance of candidates' failure to understand what is expected in scenario questions.

In part (b) many candidates seemed to have little idea of the selection techniques that are actually used. A surprising number suggested that the company should set exams that applicants for the job should sit. Many candidates failed to read the question properly and suggested that selection should be done on the basis of qualifications, despite the fact that the question specifically states that the candidates are equal on the basis of formal qualifications. Others suggested that selection should be carried out by checking the validity of candidates' claimed qualifications.

## **Question A3**

- a) Explain what is meant by the term **job evaluation** and describe why it is useful. **(8 marks)**

Distinguish between **analytical** and **non-analytical** job evaluation schemes.

**(4 marks)**

- b) Briefly describe the SFIPlus standard. **(7 marks)**

Explain how SFIPlus relates to job evaluation. **(6 marks)**

## **Answer pointers**

### **Part (a)**

Job evaluation is a technique used for comparing the relative worth of jobs. It can be used either for deciding what grade a particular job should be allocated to or for directly fixing a salary for the job.

Anti-discrimination legislation has led to the need for organisations to be able to demonstrate that they comply with the doctrine of 'equal pay for work of equal value'. Job evaluation has a valuable role to play here. In the private sector, mergers and acquisitions of one company by another, leads to a need to harmonise remuneration policy and job evaluation is a valuable tool in these circumstances.

It also has a place in younger, rapidly growing companies, where it is used to underpin the reward system to provide clarity and consistency, while flexibility is maintained.

Non-analytical schemes involve comparing whole jobs without considering the individual elements and skills that go to make up the job.

Analytical job evaluation schemes assess each job on the basis of the different elements that are involved. Such elements might include financial responsibility, supervisory responsibility, degree of autonomy, decision making powers, IT skills, linguistic skills, and so on.

## **Syllabus section: Human Resources Management**

### **Part (b)**

SFIPlus is based on a matrix of IT skills and levels, with specific criteria to be satisfied if a person be regarded as having a given skill at a certain level. It also describes the training and development required to move from one level to another.

A job can be described as requiring specific SFIPlus skills at specific levels, thus giving an objective view of the nature of the job.

## **Syllabus section: Human Resources Management**

### **Examiners' comments**

This question was attempted by 47% of the candidates, 47% of whom achieved a pass mark.

Many candidates misunderstood the term job evaluation and described performance evaluation.

Despite the fact that SFIPlus is explicitly mentioned in the syllabus, many candidates seem totally unaware of it.

## **Question B4**

- a) Employees of Magic Web Sites Ltd work a five day week. They are entitled to 20 days holiday a year in addition to public holidays. On average, each employee loses ten working days per year through sickness. Magic Web aims to allow each employee 15 days per year for training. Experience shows that employees spend an average of five days a year unproductively, as a result of scheduling problems. In

accordance with government regulations, employers must pay social security contributions equal to 6% of salary. In addition, the company enrolls its employees in a pension scheme to which it contributes 5% of salary.

Calculate the average direct cost of one day's work from an employee earning £30,000 per year. State explicitly any assumptions you make.

**(15 marks)**

- b) Norbert Stobart plc is a medium-sized logistics company. It owns computer and communications equipment that cost £100,000 in total when it was bought. The equipment was bought from system supplier SYSSUP plc; some of it was held in stock at SYSSUP and some of it was specially ordered by SYSSUP.

Compare and contrast the way that the equipment would be treated in the accounts of the two companies.

**(10 marks)**

### Answer pointers

#### Part (a)

Annual direct cost of employee:

Salary	30,000
Social security	1,800
Pension	1,500
Total	33,300
Number of weekdays	260
less	
Public holidays	10
Holiday entitlement	20
Sick leave	10
Training	15
Unproductive days	5
Number of productive days	200
Cost per productive day = $33300/200 = £166.50$	

Assumptions: 10 public holidays a year (and not a leap year)

### Syllabus section: Management accounting

#### Part (b)

The equipment is clearly important to Norbert Stobart's operations and contributes significantly to its productive capacity. It will therefore be treated as a fixed asset and depreciated over its useful lifetime, probably using straight line depreciation over a four or five year period.

When such equipment is held in stock at SYSSUP, it will be treated as a current asset, because it is something that is bought and sold as part of the company's normal operations. It will be valued at the lower of the cost price and the price at which SYSSUP expects to sell it.

If the equipment is bought specially for Norbert Stobart it will probably never appear in SYSSUP's books, although this depends on the nature of the contract between the two.

### Syllabus section: Finance

## Examiners' comments

This question was attempted by 35% of the candidates, 66% of whom achieved a pass mark. It was thus the best answered question by some margin, even though the proportion of candidates who answered it was comparatively small.

Part (a) was answered much better than part (b) but the examiners were surprised at the number of candidates who deducted social security costs and pension contributions rather than adding them. This suggests a complete lack of understanding.

## Question B5

- B5. a) Explain the law relating to the sending of 'spam' to individuals within the European Union. **(8 marks)**

How does this law differ from the corresponding law in the USA?

**(4 marks)**

- b) The security department of a bank has discovered that one of the bank's programmers has made unauthorised modifications to a programme he has been maintaining; these modifications divert a very small percentage of the value of each transaction into an account belonging to the programmer's mother.

How do the provisions of the Computer Misuse Act 1990 relate to this scenario?

**(13 marks)**

### Part (a)

The European Union law relating to the sending of 'spam' is implemented in the UK through the Privacy and Electronic Communications (EC Directive) Regulations 2003.

Unsolicited e-mail can be sent to individuals (as opposed to companies) only if they have previously given their consent. **[3 marks]**

It is unlawful to send unsolicited e-mail that conceals the address of the sender or does not provide a valid address to which the recipient can send a request for such mailings to cease. **[2 marks]**

If an email address has been obtained in the course of selling goods or services, the seller may use the address for direct mailings, provided that the recipient is given the opportunity, easily and free of charge, with every message, to request that such mailings cease. **[3 marks]**

In the USA, it is legal to send spam provided that

- the person sending the spam has not been informed by the recipient that they do not wish to receive spam *and*
- the spam contains an address that the recipient can use to ask that no more spam be sent. **[4 marks]**

**Syllabus section: The Internet**

### **Part (b)**

Under the UK Computer Misuse Act 1990, it is a criminal offence to knowingly gain unauthorized access to a computer system. However, in this case, the employee's access was authorised. [4]

Under the Act, it is a more serious criminal offence to gain unauthorized access with intent to commit or facilitate commission of a further criminal offence. The theft of funds would be a further criminal offence but this part of the Act does not apply because the access was authorised. [4]

Under the Act, it is a criminal offence to modify computer materials without authorization. The bank employee has modified computer programs without authorization and so can be found guilty under this section. [5]

### **Syllabus section: Legal Obligations**

#### **Examiners' comments**

This question was attempted by 81% of the candidates, only 33% of whom achieved a pass mark.

In part (a) many candidates were under the misapprehension that the sending of spam was an offence under either the Computer Misuse Act or the Data Protection Act.

In part (b) candidates failed to notice that the access was authorised. It was only the modification that was unauthorised.

## **Question B6**

John Taylor and Kate Smith are employees of Softdata, an online data analytics company. They have identified a new idea for a mobile app based on social media data about companies. They design and develop this app in their own time. The app utilises ideas that they are aware of from their commercial experience with Softdata, and is in competition with the company's own web service.

The app is launched and John and Kate decide to resign from their employment to start a new company, Social Media Ltd.

Discuss the following legal and professional issues:

- a) What legal and moral rights do John and Kate have to develop this app, given the BCS Code of Conduct, the law as it relates to intellectual property rights in work carried out by employees and any other intellectual property rights protection that Softdata has for its existing software.

**(15 marks)**



- b) Given the design of the system on small mobile screens, what are the implications of disability discrimination legislation?

**(10 marks)**

### **Answer pointers**

#### **Part (a)**

Code of Conduct: the key aspects of the Code that employees should be aware of include sections under “Duty to the Relevant Authority” – conflict of interest and disclosure of confidential information. These clauses would imply that the employees have a duty to Softdata to both avoid disclosing the detail of the design or flaws of the existing system, and that by starting a rival company it could constitute a conflict.

Contract of employment: many contracts of employment will have clauses related to confidentiality of the company information and data, and the ownership of IP developed by the employee whilst in employment – even if not directly related to the employment. So the new company has the issue of a potential breach of confidentiality and IP ownership.

Intellectual Property: similarity to the original system may in itself not be a problem. Softdata are protected by copyright – so no code, design, database, etc can be copied or adapted. Any trademarks would need to be freshly designed.

### **Syllabus section: Intellectual Property, Professional Codes of Conduct**

#### **Part (b)**

Legislation requires that reasonable adjustments should be made to allow disabled people to use facilities available to the public and this includes information systems. –so that, for example, blind or partially-sighted people can use the system. W3C has extended its guidelines to include mobile apps, but practice is still emerging. Best practice will include such matters as:

- do not rely on subtle colour contrasts such as yellow text on a green background;
- provide a textual alternative for non-text content such as diagrams or pictures
- make all functions available from the keyboard – some users may have difficulty using a mouse;
- do not impose time constraints on users, some of whom may only read slowly;
- ensure that the page can be read satisfactorily by a screen reader (i.e. software that converts text on the screen to speech output);
- if you use speech to convey information, ensure that the information is also available as text;
- make it easy to avoid or correct mistakes.

### **Syllabus section: Legal Obligations**

**Examiners' comments**

This question was attempted by 75% of the candidates, 34% of whom achieved a pass mark. This made it both the most popular question and, by far, the worst answered.

Part (a) was particularly badly answered with a high proportion of candidates believing that ideas can be protected by copyright.