

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

March 2015 Sitting

EXAMINERS' REPORT

Professional Issues in Information Systems Practice

General comments on candidates' performance

The pass rate this sitting was comparatively good, with all the large centres achieving a reasonable rate. It was still the case, however, that some 16% of candidates gained a mark of less than 25%; such candidates are clearly not properly prepared for the examination and are wasting their time and money by taking it.

There was a welcome reduction in the number of candidates who register but then fail to present themselves for the examination. Two substantial centres (not in the UK) had no-show rates of under 6%.

The examiners can only reiterate what has been said in previous reports. Candidates who fail this model do so because of one or more of the following three reasons:

- lack of knowledge as a result of inadequate preparation; *or*
- poor skills in written English with the result that they cannot express their knowledge; *or*
- lack of the intellectual abilities required to understand the material or to apply to concrete scenarios.

The failure of candidates to apply their knowledge to specific scenarios is a serious problem and we would strongly urge those teaching candidates for this module to devote a significant amount of classroom time to discussion of scenarios. There is little point in candidates studying the material in this module unless they can relate it to situations that they are likely to meet in their professional lives.

Question A1

- a) Briefly explain what is meant by the term **professionalism** in the context of the computing industry. **(5 marks)**
- b) The Royal Charter of the BCS states that one of its objectives is to advance knowledge of computing. Give FOUR examples, with brief explanations, of how the BCS achieves this objective. **(4x5 marks)**

Answer pointers

Part (a)

Professionalism is meeting the standards set by the profession in terms of individual conduct, integrity etc. A computing professional is an individual who should carry out his duties and responsibilities honestly, adhering to standards of good practice and demonstrating professional competence with a commitment to the interests of all end-users and other stakeholders in a system.

Part (b)

There are many possible examples, such as the following

- through its publications – specially commissioned books and learned journals such as *The Computer Journal* or *Innovation in Health Informatics*;
- organising conferences and similar activities, which bring together practitioners in the field to discuss common problems and their experiences with different approaches to solving them
- specialist groups, through which those with a common interest in a particular aspect of computing work together to develop new ideas and techniques. There are many such groups; perhaps the best known are those concerned with the application of IT in health care;
- sponsoring public lectures by distinguished researchers in computing. Examples include the annual Roger Needham lecture and the Karen Spärck Jones lecture.

While the question asks specifically about *advancement* of knowledge, the examiners accept that the distinction between the advancement of knowledge and the dissemination of knowledge is not always clear and examples covering either were accepted.

Syllabus section: Professional Institutions,

Examiners' comments

This question was attempted by 72% of the candidates, 50% of whom achieved a pass mark.

Two common weaknesses in answering part (b) were:

- including activities carried out by the BCS for reasons that have nothing to do with the advancement of knowledge. Supporting continuing professional development, for example, is an important and valuable BCS activity but it has little to do with the advancement of knowledge.
- listing the same activity twice, using different language, e.g. organising conferences and organising workshops.

There are recurring problems similar to those of last year in that answers were not structured in accordance with the question; the students just wrote a selection of

paragraphs with no clear separation of the different sections. This not only made them difficult to mark and award grades, but demonstrates that students do not always read the questions correctly or believe that by including extra sections, they might be awarded a higher grade. Once again the same comment can be made that only parts of the question were addressed and the student tended to write about what they had revised, possibly indicating rote learning in some cases.

Once again, students in many cases demonstrated a reasonable knowledge of the subject but were unable to express it in a properly structured manner. Many candidates seemed to be unable to express their knowledge because of an inadequate command of English. There were, nevertheless, some very good answers.

Question A2

- a) Explain the meaning of the terms **sole trader** and **partnership**, and describe the significant features of these two ways of conducting a commercial operation. **(15 marks)**
- b) The UK recognises two types of limited company, the **public limited company** and the **private limited company**.
What is the essential difference between a public limited company and a private limited company? **(4 marks)**
- c) Explain the meaning of the term **management buyout**. **(6 marks)**

Answer pointers

Part (a)

A sole trader is someone who runs his/her own business. There are no legal formalities required to become a sole trader. Depending on the amount of annual income, the sole trader may be required to register with Revenue for VAT purposes. A sole trader is personally liable for all debts incurred by the business. **(7 marks)**

If two or more people operate a business with a view to making profits, and the business is not a limited company, the law will perceive them as being in partnership. The liability of each partner is unlimited and each partner is jointly and severally responsible for the liabilities of the partnership. Problems in terms of ownership and how much money a partner should receive from the partnership upon retirement as well as problems in terms of ownership and how much money should go to the estate of a partner who dies while an active partner, can often arise. **(8 marks)**

Part (b)

The essential difference is that a Plc can, if it so wishes, offer its shares for sale to the public but an Ltd cannot.

Part (c)

A management buyout occurs when senior employees of an existing company, purchase the company from its existing owners. Normally this entails the purchasers borrowing the capital required to purchase the company and incurring substantial personal debt.

Syllabus section: Organisations and their Structure

Examiners' comments

This question was attempted by 87% of the candidates, 75% of whom achieved a pass mark.

Part (a) was looking for a straightforward statement of some basic facts about companies. The examiners were surprised at how many candidates either did not have this knowledge or were unable to express it.

A significant number of candidates from one centre were under the misapprehension that a public limited company (PLC) is a limited company owned by the state and one in which, therefore, individuals cannot own shares. A few candidates stated that a PLC must have a paid-up share capital of £50,000. While this is true, it is not the essential characteristic of a PLC – if the limit were changed tomorrow it would not make any difference to the overall picture of PLCs. Candidates who gave this as the only characteristic of a PLC were given only a small amount of credit.

Part (c) was very poorly answered. Some candidates confused 'management buyout' with 'management by objectives', while others believed that it had to do with outsourcing and/or venture capitalists.

Question A3

- a) Job evaluation schemes can be either **analytic** or **non-analytic**. Through the use of examples, explain both types of scheme. **(10 marks)**
- b) Distinguish between **direct** and **indirect** discrimination. **(6 marks)**
- c) Describe THREE practices that an employer can apply to support effective compliance with anti-discrimination legislation. **(3x3 marks)**

Answer pointers

Part (a)

Analytical schemes assess each individual job on the basis of the different elements within each job. Elements could include, budgetary responsibility, degree of autonomy, marketing skills, management of staff. Each element within the job is given a weighting. Then each job is assessed for each of the elements on a given scale (e.g. 0 for budgetary responsibility if no budgetary responsibility goes with the job). A score for the job is calculated by adding the scores for each element and this is then multiplied by the weighting assigned to that element. **(5 marks)**

Non-analytical schemes compare whole jobs without considering the individual elements and skills that make up the job. An example is the widely used technique of job classification within the public service. First the number of grades is decided and then the descriptions of the job characteristics for each grade are produced. **(5 marks)**

Part (b)

Direct discrimination takes place when one employee is treated less favourably than another, specifically because of one of the protected characteristics such as disability, sex or race. **(3 marks)**

Indirect discrimination takes place when general conditions are unnecessarily imposed that have a disproportionate effect on individuals having a particular protected characteristic. (3 marks)

Part (c)

A suitable written policy that is well publicised, and freely and easily available. (3 marks)

A training programme for new and existing staff to ensure they are all aware of the policy's content and importance. (3 marks)

Put in place effective procedures for implementing the policy. (3 marks)

Syllabus section: Human Resources Management

Examiners' comments

This question was attempted by 43% of the candidates, 53% of whom achieved a pass mark.

Answers to part (a) were sharply divided between those candidates (about half) who knew exactly what the question was about and answered it well, and those who had no idea and made a random guess at what analytic and non-analytic job evaluation might be, and typically scored zero.

The same sort of division was apparent in part (b), with many candidates guessing (incorrectly) at what might constitute indirect discrimination.

Part (c) was badly answered by most candidates, with few being able to suggest even one suitable practice.

Question B4

- a) Explain what is meant by the terms **fixed asset**, **current asset** and **current liability**, illustrating each with an EXAMPLE from the IT industry. (3x5 marks)
- b) In the context of a proposal to develop a new piece of software for sale, explain the concepts of **net present value** and **opportunity cost**. (2x5 marks)

Answer pointers

Part (a)

A fixed asset is something the business owns, with a useful life of more than one year and that will bring financial benefits to the business in the future. Fixed assets will not normally be traded. A typical example in the IT industry might be a file server or the IPR in a package that the company markets.

Current assets are assets that will be held by the business for less than one year, including inventory held for resale and cash balances. They will usually be traded. Examples might be stocks of lap tops held for sale by companies such as Dell.

Current liabilities are amounts that are due to be paid within a year, including amounts owed to suppliers, for example, outstanding amounts owed to the manufacturers of the lap tops in the previous example.

Syllabus section: Finance

Part (b)

Developing the new piece of software will involve cash outflows spread out over a period of time and (hopefully) cash inflows starting later than the outflows but eventually exceeding them. If all these cash flows are discounted back to the present and summed, the result is the net present value of the proposed project.

The opportunity cost is the possible financial gain that would have resulted from investing the cost of the project in some alternative investment vehicle.

Syllabus section: Management Accounting

Examiners' comments

This question was attempted by 63% of the candidates, 49% of whom achieved a pass mark.

By and large, candidates answered part (a) well and part (b) badly, with few candidates showing any knowledge of the concepts of net present value or opportunity cost.

Question B5

- a) A student at the Upshire College of Education has hacked into the College's student record system and has altered records relating to examination marks.

Discuss how the provisions of the UK Computer Misuse Act 1990 relate to this scenario. **(10 marks)**

- b) Explain what is meant by the term **copyright** in the context of software. **(10 marks)**

If you discover someone has made a copy of software that you have written and is using it for his or her own purposes, what action can you take? **(3 marks)**

How does the situation change if the person who copied the software is selling copies to other people? **(2 marks)**

Answer pointers

Part (a)

The students have gained unauthorised access to the College's computer system. It is overwhelmingly likely that this was intentional. It therefore constitutes unauthorised access to a computer system, an offence under Section 1 of the Act. Following the changes introduced in the Police and Justice Act 2006, this is punishable by up to 12 months imprisonment and/or a fine of £5000 in a Magistrates' Court or up to two years imprisonment on conviction in a Crown Court. **(5 marks)**

The fact that the student has altered records in the system makes him or her guilty of unauthorised modification of data in a computer. This constitutes an offence under Section 3 of the Act and is punishable by up to five years imprisonment and/or an unlimited fine. **(5 marks)**

Syllabus sections: Legal obligations

Part (b)

Copyright is the right to do certain things to the software:

- make a copy of the whole or a substantial part of the software;
- issue copies to the public;
- adapt the software, e.g. by translating it into a different programming language;
- rent or lend the software to the public, e.g. by hiring out copies of a DVD containing a computer game;
- run the software on a computer for the benefit of members of the public, e.g. in a cyber café.

The copyright belongs to the author or authors of the software or to their employer if the software was written in the course of employment. Only the copyright owners or persons authorised by them can do the things in the above list.

If someone has taken a copy of your software and is using it for his own private purposes, all you can do is go to court and apply for an injunction requiring him to desist and possibly pay you damages, but these will be small.

If he is selling copies of the software to other people then you may be able to sue for more substantial damages and have criminal proceedings brought against him, since this is secondary infringement, which is a criminal offence.

Syllabus sections: Intellectual Property

Examiners' comments

This question was attempted by 70% of the candidates, 52% of whom achieved a pass mark.

Many candidates, while clearly aware of the provisions of the Computer misuse Act, were unable to explain in part (a) which parts of the Act the student had violated. In part (b) too many candidates treated the question as an invitation to write all they knew about copyright without regard to the specific questions posed.

Question B6

- a) Give FOUR examples of information that must be provided before goods are sold on the internet. **(4 marks)**

Explain why it is necessary to display terms and conditions of purchases on an e-business website. **(6 marks)**

- b) One of the sections of the BCS Code of Conduct is entitled **The Public Interest**.

Summarise the content of this section of the code. **(9 marks)**

Discuss the obligations that this might impose on a BCS member who is working on a new medical records system for a hospital. **(6 marks)**

Answer pointers

Part (a)

The regulations require suppliers to provide information such as:

1. Name and address of the supplier
2. A description of what is being offered
3. The cost, including taxes
4. The delivery charge, if any, and the method of delivery

[4 marks]

Displaying terms and conditions of purchase such as the policy on returns and refunds and which national law should apply to purchases on the e-business website is necessary in order to attempt to avoid consumer disputes and to comply with the UK Consumer Protection (Distance Selling) Regulations 2000.

[6 marks]

Syllabus section: the Internet

Part (b)

The relevant section of the Code of Conduct states that members shall:

- a) have due regard for public health, privacy, security and well-being of others and of the environment
- b) have due regard for the legitimate rights of Third Parties
- c) conduct your professional activities without discrimination on the grounds of sex, sexual orientation, marital status, nationality, colour, race, ethnic origin, religion, age or disability, or of any other condition or requirement
- d) promote equal access to the benefits of IT and seek to promote the inclusion of all sectors in society wherever opportunities arise.

The most obviously relevant considerations are those under (a): public health, privacy, security and well-being of others and candidates who restrict themselves to these were able to get good marks. Good answers recognised that there are conflicts between, say, public health and privacy. The key to resolving them lies in the phrase 'due regard'. There will need to be compromises but there are also lines that must not be crossed.

Syllabus section: Professional Codes of Conduct

Examiners' comments

This question was attempted by 69% of the candidates, 50% of whom achieved a pass mark.

There were very few good answers to this question; those who achieved a pass mark did so only barely. In answering part (a) it seemed that candidates lacked knowledge of what was required while in part (b) they had some idea of the the contents of the relevant section of the Code but no idea of how it would apply to the situation described.