

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

September 2014

EXAMINERS' REPORT

Professional Issues in Information Systems Practice

General comments on candidates' performance

While not as high as the pass rate achieved in the previous sitting, the pass rate this time was still high in comparison with most previous sittings of the module – only four of the previous 17 sittings have had a higher pass rate.

The examiners are consistently surprised at the number of candidates who register for the examination and then fail to turn up. At one quite large centre 35% of the candidates who registered failed to attend the examination.

A significant number of candidates have such poor skills in written English that the examiners are unable to determine whether they have the knowledge or the intellectual grasp to pass the examination. However a substantial number of candidates fail the module for reasons that could be remedied by suitable teaching:

- candidates often show poor 'exam technique'. For example, they may write five or six pages in answer to a part of a question that carries only five marks, thus wasting a lot of their time in the examination;
- they may fail to read the question properly. Thus, in part (a) of question B5, most candidates simply listed the eight data protection principles without attempting to address the question as set;
- candidates seem unable to apply their knowledge to specific scenarios. There is little point in candidates learning this material unless they 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.

(It may well be, of course, that centres are offering this sort of teaching but that candidates are failing to avail themselves of the opportunities offered to them. There is no way that the examiners can know whether this is the case.)

Question A1

The BCS Royal Charter states that the purpose of the BCS is to promote the study and practice of Computing and to advance knowledge and education in the field for the benefit of the public. List and explain FIVE things that the BCS is authorised to do in order to fulfil these purposes

(5 x 5 marks)

Answer pointers

There are many topics that candidates might have chosen. The following are simply five suitable examples:

- The BCS contributes to the setting of national and international technical standards by nominating suitably qualified and experienced members to sit on standards setting bodies. In some instances BCS specialist groups have taken a leading role in standards setting.
- Through its publications, its support for conferences, its presence on the Internet and the activities of its branches the BCS promotes the dissemination of knowledge about Computing both to its members and to the industry more generally.
- The BCS promotes education in Computing in a wide variety of ways, through, for example, its higher education accreditation programme, its own examination system, its professional certification programme and its support for the European Computer Driving Licence.
- The BCS runs its Policy Forum, which allows individual members to contribute to the BCS corporate response to requests for advice from government and regulatory bodies.
- The BCS promotes the advancement of knowledge by bringing together in its specialist groups people from a variety of backgrounds with common interests in specific aspects of Computing, ranging from Computing in the Health Service to standards for specific programming languages.

Examiners' comments

This question was attempted by 89% of the candidates, 46% of whom achieved a pass mark.

A major weakness was that candidates did not structure their answers in accordance with the structure of the question. The question invites an answer consisting of five paragraphs each describing one way which the BCS seeks to support the advancement of knowledge and education in Computing. Few candidates structured their answer in this way. Instead they wrote down anything they knew that seemed remotely relevant to the question.

Question A2

- a) Describe the **THREE** principles that are fundamental to the idea of a limited company. **(9 marks)**
- b) People working together in a partnership are said to be **jointly and severally** responsible for the partnership's liabilities. Explain what is meant by the phrase 'jointly and severally'. **(4 marks)**
- c) Give **THREE** examples of matters covered by the articles of association of a limited company. **(6 marks)**
- d) Distinguish between the roles of **executive director** and **non-executive director**. **(6 marks)**

Answer pointers

Part (a)

The company has corporate legal identity, that is, it is a legal person, completely separate from the people who work in it or the people who own it.

The ownership of the company is divided into a (usually large) number of shares. These shares can be bought and sold individually.

In the event that the company incurs debts or other legal liabilities, its owners have no obligation to pay these. The most that shareholders stand to lose is the money they paid for their shares.

Part (b)

Creditors of the partnership can sue an individual partner or partners for the whole of the debt (e.g. because that partner is known to have sufficient funds to be able to pay) or they can sue all the partners together.

Part (c)

Any three of

- the number of directors;
- how directors are appointed and removed;
- what their powers are e.g. can they raise loans;
- what happens when new shares are to be issued;
- what process is required in order to modify the articles;
- and so on. (2 marks for each of three examples)

Part (d)

Executive directors are normally also employees of the company, with specific responsibility for certain areas of its activities. Non-executive directors are directors who act in an advisory capacity only. Typically, they attend monthly board meetings to offer the benefit of their advice and are paid a fee for their services, and they serve on committees concerned with sensitive issues such as the pay of the executive directors and other senior managers. Legally, the duties and responsibilities of non-executive directors are precisely the same as those of the executive directors.

Syllabus sections: Organisations and their structure

Examiners' comments

This question was attempted by 75% of the candidates, 54% of whom achieved a pass mark.

The examiners find it remarkable that such a high proportion of candidates are unable to achieve a pass mark on such a very straightforward question, parts of which, particularly part (a), are fundamental and have been asked repeatedly on this paper over the years. This suggests very poor exam preparation.

Question A3

List FIVE different functions that the human resources (HR) department of a medium sized company (100 to 200 professional staff) would be expected to carry out and explain briefly what is involved in each. **(5 x 5 marks)**

Answer pointers

The following is a non-exhaustive list of HR functions:

- administering the recruitment and selection of new staff;
- administering staff training and development;
- setting up and monitoring remuneration policy;
- setting up and monitoring appraisal procedures;
- administering dismissal and redundancy procedures;
- drawing up contracts of employment;
- workforce planning;
- administering grievance procedures;
- being aware of new legislation affecting employment rights and advising management of what the organisation must do to comply with it.

Candidates were expected to choose five such functions and explain them at the level of the following example:

“Administering the recruitment and selection of new staff involves:

- in consultation with management, drafting and placing advertisements and/or instructing recruitment consultants;
- setting up interviews or other selection processes;
- taking up references;
- ensuring that recruitment and selection procedures comply with anti-discrimination legislation and maintaining records so that this can be demonstrated.”

Syllabus section: Human resources management

Examiners' comments

This question was attempted by 66% of the candidates, 48% of whom achieved a pass mark.

Candidates answers were badly structured. They did not give five functions with explanations but just wrote a selection of paragraphs with no clear separation of the different sections. Many candidates were under the misapprehension that an HR department actually takes full responsibility for carrying out many of the functions, rather than just administering them and ensuring that the proper procedures are followed. Thus, for example, they said that the HR department itself interviews and selects staff.

Question B4

A high volume printer was purchased for £100,000. The expected life of the printer is 100 million copies.

- a) Calculate the depreciation for each of the first four years and the book value at the end of the four years
 - i) using the straight line method and writing the printer off over five years; **(5 marks)**
 - ii) using the reducing balance method, with a depreciation rate of 20%; **(5 marks)**

- iii) on the basis of usage, assuming the number of pages produced annually is as follows:

	Number of pages (millions)
Year 1	15
Year 2	25
Year 3	25
Year 4	30

(5 marks)

- b) It was decided to dispose of the printer at the end of the four year period, for £10,000. For each of the three depreciation methods used in part (a), explain the effect that the disposal will have on the profit and loss account for the final period. **(6 marks)**
- c) Which of the three depreciation methods do you consider is the most appropriate in this case, and why? **(4 marks)**

Answer pointers

Part (a)

- i) £20,000 each year; book value £20,000.
- ii) £20,000, £16,000, £12,800, £10,240; book value £40,960.
- iii) £15,000, £25,000, £25,000, £30,000; book value £5,000

Part (b)

- i) additional expenditure (loss) of £10,000
- ii) additional expenditure (loss) of £30,960
- iii) additional income(profit) of £5,000

Part (c)

Depreciation on the basis of usage is most appropriate because it reflects accurately the consumption of the printer's useful life. However, either straight line depreciation (because it's simple) or reducing balance (because there is no need for special action when the book value reaches zero) were both accepted, provided the reason was clearly explained.

Syllabus sections: Finance and Management Accounting

Examiners' comments

This question was attempted by 41% of the candidates, 71% 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.

Surprisingly few candidates realised the appropriateness of depreciation on the basis of usage, although the question seems to beg for it.

Question B5

Cloud computing is the use of internet-based infrastructure, hardware and software to provide services on demand. Organisations such as Google, Microsoft and Amazon sell infrastructure capacity (e.g. storage, communications and processing) and software services (e.g. mail, office products). Cloud computing uses such resources across the world, as appropriate, and the precise location where a piece of data will be stored or processed is not necessarily specified.

AC Services is a company that has developed a cloud-based software service for small businesses to run their business systems, including accounts, human resources, sales, product and client management.

- a) Discuss the data protection considerations that potential clients of AC Services should take into account. **(12 marks)**
- b) Describe three issues that clients of AC Services might expect to see addressed in the contracts they are asked to sign. **(6 marks)**
- c) Explain the term **jurisdiction**. Why might jurisdiction be relevant to the contracts between AC Services and its clients? **(7 marks)**

Part (a)

So far as personal data is concerned, clients in the UK will be subject to the Data Protection Act 1998 and three of the data protection principles enunciated in the Act are relevant to this situation:

Fifth Data Protection Principle

“Personal data processed for any purpose or purposes shall not be kept for longer than is necessary for that purpose or those purposes.”

It may be difficult to comply with this principle insofar as it relates to the deletion of back-up copies held in the cloud.

Seventh Data Protection Principle

“Appropriate technical and organisational measures shall be taken against unauthorised or unlawful processing of personal data and against accidental loss or destruction of, or damage to, personal data.”

While the actual security of the cloud may well be better than that of the systems that a small business would implement if left to itself, the difficulty of auditing a cloud-based system means that it would be difficult to demonstrate that the appropriate level was being achieved.

Eighth Data Protection Principle

“Personal data shall not be transferred to a country or territory outside the European Economic Area unless that country or territory ensures an adequate level of protection for the rights and freedoms of data subjects in relation to the processing of personal data.”

In order to ensure compliance with this principle, clients would require an undertaking from AC Services that its cloud-based systems were compliant, something that AC might find it difficult to achieve.

For non-personal data, there are no statutory requirements but clients may well have concerns about maintaining the confidentiality of data held, for example,

in computer-aided design systems or customer relationship management systems.

Part (b)

3 x 2 marks for simple descriptions of 3 relevant elements of a contract. For example:

- AC Software should undertake to comply with all legal requirements in respect of processing data that the client is subject to.
- AC Software should undertake to indemnify the client against any costs to which the client becomes liable as a result of AC Software failing to comply with its obligations under the contract or infringing intellectual property rights.
- AC Software should be subject to defined financial penalties if it fails to meet agreed levels of service.
- In the event that the contract is terminated by either party, AC Software should undertake to return to the client all of the client's data that it holds.

Part (c)

Jurisdiction means the official power to make legal decisions and also refers denotes the geographical area or subject matter over which such a power extends. [3]

It may well happen that AC Services will have clients in countries other than the one in which it is registered and, furthermore, that data belonging to a client may be stored or processed in countries in which neither AC Services nor its clients are registered. It is essential, therefore, that the contract states clearly under which jurisdiction it is to be interpreted – UK data protection law and US data protection law are very different, for example – and in which jurisdiction any dispute over the contract performance (e.g. service level) should be tried. [4]

Syllabus sections: Legal obligations, the Internet

Examiners' comments

This question was attempted by 54% of the candidates, only 21% of whom achieved a pass mark.

Almost all candidates simply listed the eight data protection principles with no attempt to relate them to cloud computing, despite the fact that the question explicitly makes the point that the location where data is stored in the cloud is not necessarily known. The recommended text specifically addresses this point. It also explicitly explains the term 'jurisdiction'.

Question B6

- a) Mobility, a mobile application developer, has developed a new 'app' for business travellers called TripPlanner. Discuss what Mobility might do to protect the commercial value of the intellectual property in the app. **(17 marks)**
- b) Mobility has decided to use Open Source Software components within TripPlanner to search the web for suitable hotel deals and plan the route between particular cities. Discuss how this affects the intellectual property situation. **(8 marks)**

Answer pointers

Part (a)

It is difficult to protect an idea in a new piece of software, so innovation to retain market leadership is often the best way to protect the commercial position [2]

Copyright prevents anyone from copying the software whether for their own personal use or for commercial use. Copyright comes into existence automatically when the software is created. Protection is worldwide although details vary from country to country. Copyright does not protect the company from someone copying the idea and rewriting the software from scratch, but it does protect them from a company simply moving it to a different platform (e.g. Apple to Android). Breach of Copyright for commercial reasons is a criminal offence. [7]

Trademarks prevent other people from falsely claiming that software they are selling comes from the owner of the trademark. It is a criminal offence to apply a trademark to a product unless you have the permission of the owner of the trademark. This includes both using the trademark on a label and displaying it on the screen when software is loaded. Trademarks have to be registered in each legal jurisdiction in which protection is required. [6]

Patents cannot be used to protect this software in Europe. [2]

Part (b)

As above when someone created the open source software they created a property with copyright. So it is owned by someone. [2]

So Mobility could buy the rights to use this software through an open source licence agreement. [2]

Any licence may place restrictions on Mobility in terms of what it can do to the software or the overall ownership of the TripPlanner app. It may require Mobility to redistribute its app as open source software. However it depends entirely upon the original agreement [4]

Syllabus sections: Intellectual property rights

Examiners' comments

This question was attempted by 72% of the candidates, 45% of whom achieved a pass mark.

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

In both parts of the question, candidates showed themselves unable to apply their knowledge to a specific scenario.