

BCS THE CHARTERED INSTITUTE FOR IT

BCS HIGHER EDUCATION QUALIFICATIONS

BCS Level 5 Diploma in IT

IT SERVICE MANAGEMENT

Tuesday 21st March 2017

Time: TWO hours

Answer **any** FOUR questions out of SIX. All questions carry equal marks.

EXAMINERS' REPORT

General comments on candidates' performance:

The standard was reasonably high for this examination, with 63% of the candidates achieving a pass. However, a number displayed a limited knowledge of IT in typical everyday workplace situations.

The evidence suggests that candidates would benefit from studying the use of service management within their own organisation or organisations/companies with which they are familiar, as well as reading the recommended material. This will put any theoretical knowledge into context, thereby making the whole subject easier to understand and remember.

An indication is given below of the expected answer points. However, marks were given for alternative answers if relevant to the question.

SECTION A

A1.

- a) Define a Decision Support System (DSS). (5 marks)
- b) Describe the components of a typical DSS. (12 marks)
- c) Using TWO examples (one example for management staff and one example for operational staff), explain how a DSS can assist the decision making of:
- (i) Management staff
 - (ii) Operational staff
- (8 marks)

Answer pointers:

- a) BCS definition is: "A DSS is a refined management information system where the emphasis is on providing senior management with key information for strategic decision making. Such systems use sophisticated analysis techniques and may include expert systems." (5 marks)
- b) **DSS components:**
- **Data Management Component.** The data management component performs the function of storing and maintaining the information used by the Decision Support System. The data management component, therefore, consists of both the Decision Support System information and the Decision Support System database management system.
 - **Model Management Component.** The model management component consists of both the Decision Support System models and the Decision Support System model management system. A model is a representation of some event, fact or situation. As it is not always practical, or wise, to experiment with reality, people build models and use them for experimentation. Models can take various forms.
 - **Knowledge Management Component.** The knowledge management component, like that in an expert system, provides information about the relationship among data that is too complex for a database to represent. It consists of rules that can constrain possible solutions and also alternative solutions and methods for evaluating them.
 - **User Interface Management Component.** The user interface management component allows end-users to communicate with the Decision Support System. It consists of the user interface management system. This is the only component of the system with which the end-user has direct contact. If you have a Decision Support System with a poorly designed user interface, the end-user is unlikely to use it no matter what its capabilities.

(3-4 marks for each component, max 12 marks)

- c) Decision support systems assist the user in taking decisions by providing the user with information he/she wouldn't otherwise have. Such systems include systems with a "what-if" analysis feature that can help managers determine the best scenario from a number of alternatives (e.g. what-if inflation increased by x% and what-if interest rates went up by y%). Decision support systems can also assist operational staff determine the best course of action when faced with an operational problem (e.g. an interactive on-line help facility to determine what to do in the event of a malfunctioning machine).

(8 marks)

Examiners' comments:

This question was attempted by 70% of candidates.

For part a), the evidence suggests that candidates had a limited knowledge of DSS as only a small number of candidates were able to provide a meaningful definition.

Overall, part b) was not comprehensively answered, with only a few identifying four components. Marks were awarded for valid answers that used alternative terminology to that used in the answer pointers above.

Part c) was answered well by most of the candidates.

A2.

a) Describe FOUR ways in which an Executive Information System differs from other Information Systems used by executive personnel.

(12 marks)

b) List and explain THREE reasons why many Executive Information Systems fail.

(6 marks)

c) Discuss why developers of Information Systems may wish to use a phased approach for development.

(7 marks)

Answer pointers:

a) Differences:

- **Support.** The support required by the executive who uses an EIS will be greater than that required for other information systems.
- **Processing power.** An EIS requires more processing power in comparison to other “personal” information systems. This is because it will require high processing power to cope with multimedia, graphics, and various “what if” scenarios, using high volumes of information.
- **Drill down.** An EIS provides the ability to interactively drill down through data in order to reach the required level of information.
- **Screen based.** An EIS is generally screen-based. It is not menu driven and is unlikely to provide SQL facilities.
- **Externally focused.** Much information presented to an executive may originate from external sources.

(3 marks for each of four relevant points put forward, max 12 marks)

b) Reasons for failure:

- Organisational conditions are unfavourable for the introduction of an EIS.
- Poor sponsorship (money and time) is provided by the executive towards development and on-going enhancements.
- Political resistance from staff who are required to keep the data within the EIS up to date. Also, political resistance from the executive him/herself, particularly when he/she is forced to adopt the EIS into his/her working life.
- The EIS is wrongly perceived and/or poorly designed. An EIS is very personal to the executive who uses it.

(2 marks for each of three relevant points put forward, max 6 marks)

c) Reasons for using a phased approach:

- As a means of quality assurance and measurement, it is important that deliverables are agreed and understood by both the purchaser and the supplier. The production of deliverables at each phase demonstrates to everyone how development is progressing and highlights any areas where problems might arise.
- Discovering errors in the development process as early as possible should always be an objective. Any errors discovered during the operational phase can cost a great deal more money and time to rectify than if they are discovered during the requirements phase.

(7 marks)

Examiners' comments:

55% of candidates who sat the examination attempted this question.

Overall, part a) of this question was answered well by the most candidates. Most were able to identify three differences, whilst only a few identified four.

Part b) was answered well by most candidates.

For part c), only a minority of candidates placed an emphasis on quality assurance and measurement.

A3.

- a) You are the Chief Information Officer of a UK nationwide supermarket chain. To compete with other supermarkets, the Board requires a database of customer preferences. You suggest that a Customer Relationship Management (CRM) system, using customer loyalty cards, would meet the Board's requirement.

Describe FOUR ways in which information from the CRM system could be used to help the supermarket chain improve its competitive position.

(12 marks)

- b) Describe, by job title and area of responsibility, who you think would comprise an appropriate IS steering committee for the following organisations.

- Your local College.
- A hotel chain with 500 hotels on five continents.
- The Foreign Office within the UK Government.
- A local hairdresser.

State any assumptions you make. If you believe one or more of the organisations does not need an IS steering committee, explain why.

(13 marks)

Answer pointers:

a) Use of CRM system:

- Customer profile. How the supermarket can build a sustainable profile of its customer base and target offerings accordingly.
- Product range. How the information gathered can inform the supermarket how best to expand its product range.
- Product price. How the information gathered could result in the price of some products being store-specific.
- Competitor pricing. Explanation as to which products should be priced below competitors' prices and those products which have fewer price-sensitive customers.

(3 marks for each of FOUR points, max 12 marks)

b) Composition of IS Steering Committee:

There is no single correct answer for any of the four organisations. The important point is that a suitable membership is identified:

- The local college should have an IS steering committee chaired by the Head of the College, with members drawn from the main central support units (e.g. Finance, Academic Affairs) and the heads of the main academic units. Also, the IS manager should be a member.
- The hotel chain should have an IS steering committee chaired by the CEO together with the General Manager of each continent and the CIO.
- The Foreign Office should have an IS steering committee chaired by the Chief Secretary with the most senior civil servant of each of the main units within the Foreign Office, the most senior IS executive in the Foreign Office and a member from the UK Government's Office of the CIO.
- It is highly unlikely that the local hairdresser will have an Information System; hence no need for an IS steering committee.

(13 marks)

Examiners' comments:

This question was attempted by 43% of the candidates.

Part a) was answered well by the majority of candidates, indicating a sound knowledge of how CRM systems can be used in a commercial context.

Part b) was poorly answered by the majority of candidates, the evidence suggests that there was a lack of understanding about the importance of governance in relation to information systems.

SECTION B

B4. Describe the nature and importance of each of these topics in the context of IT service management:

- a) User authorisation
- b) Service definition
- c) Project management
- d) Product selection criteria
- e) Document image processing

(25 marks)

Answer pointers:

These elements of service management vocabulary need to be fully understood by practitioners.

Note that a description of both the “nature” and “importance” is required for each element in order to gain maximum marks.

(5 marks for each of 5 elements)

Examiners comments:

This was a moderately popular question, attempted by nearly 53% of the candidates who sat the exam. The pass rate was 33% and few good answers were received. The evidence suggests that those who failed to achieve a pass mark gave limited answers which contained insufficient detail to provide the necessary depth of answer.

The evidence suggests that in general, the definitions provided were poor, ambiguous or incorrect. The terms which form the basis of IT service management were unfamiliar to many candidates.

The evidence suggests that a number of candidates were unprepared to answer this question.

B5. You are asked by your manager, the Head of Technical Services, to recommend where the new central server room in your organisation should be located. The organisation is based in a four storey modern office block on a business park close to a major city, with a staff restaurant on part of the ground floor. There is space to locate the central server room on any of the four floors.

a) Describe in detail FOUR factors that need to be considered.

(12 marks)

b) Taking into account the factors you have described in part a), recommend and justify an appropriate location for the new central server room, stating any assumptions made.

(13 marks)

Answer pointers:

a) Factors to be considered:

The four factors to be taken into account during the selection of a site for the new server room could include, but are not limited to:

- Access to the building data cabling infrastructure (UTP/fibre)
- Access to power supplies
- Access to air handling and/or fresh air for cooling
- Feasibility of running coolant pipes for air conditioning
- Physical size of room to allow for later expansion of services
- Physical security: lockable, non-obvious location
- Low risk from fire in existing facilities (e.g. kitchen)
- Low risk from flooding (environmental or failed pipework)
- Accessible by staff
- Other environmental risks (e.g. leaking roof, storm damage)

(Up to 3 marks for each of 4 factors, max 12 marks)

b) Justified location of new server room

This section should provide a balanced set of arguments which take into account the factors discussed in part a) in association with the assumptions and the given information.

Clarity and transparency of decision making are key elements of service management.

Up to 3 marks for style and format.

Up to 5 marks for the way the 4 factors are presented.

Up to 5 marks for the way in which the recommendation is justified.

(Max 13 marks)

Examiners' comments:

This was a popular question, attempted by 80% of the candidates. The pass rate was 75% and a number of extremely good answers were received. The evidence suggests

that those who failed to achieve a pass mark gave limited answers which contained insufficient detail to provide the necessary depth of answer.

The majority of candidates provided reasonably cogent responses to this question, although in part a) a number of candidates lost potential marks by not providing the four factors which were requested or by not making them sufficiently different.

Given the range of assumptions indicated by candidates in part b), there was a degree of flexibility in the awarding of marks in this section, to reflect the different backgrounds and experience of the candidates.

B6. A member of staff at the financial organisation for which you work reports to the IT service desk that they have found an unlabelled USB stick plugged into a spare port on their office desktop PC. Your organisation has strict rules regarding removable media and has banned them from the site.

a) Describe the first THREE actions which you would take.

(9 marks)

b) Write a report for the Board of your organisation describing the potential threats to which this incident could expose the organisation and offering a mechanism for managing the risk.

(16 marks)

Answer pointers:

a) Actions to take:

The first three actions could include, but are not limited to:

- Removal and isolation of USB stick
- Full virus and malware check on the system on which it was found
- Checks on wider system integrity and virus/malware signatures
- Forensic investigation of USB stick
- Beginning an incident report recording times and actions
- Securing backups of essential evidence paths such as logs and CCTV recordings
- Statements from staff involved
- Issue advice to staff asking for similar examples and reiterating policy and advice

(Up to 3 marks for each of 3 actions, max 9 marks)

b) Report

The ability to report complex technical issues to non-technical managers is an important element of service management. The use of professional formats helps ensure that senior staff gain confidence in the advice they are being given.

The analysis and advice should be clear, succinct and well laid out, enabling senior managers to absorb the information quickly.

Up to 4 marks for the format, style and layout of the document.

Up to 6 marks for the analysis of the risk.

Up to 6 marks for the nature of the recommendations.

(Max 16 marks)

Examiners comments:

This was a popular question, attempted by nearly 95% of the candidates who sat the exam. The pass rate was over 78% and a number of extremely good answers were

received. The evidence suggests that those who failed to achieve a pass mark gave limited answers which contained insufficient detail to provide the necessary depth of answer.

In general, candidates who answered this question gave appropriate and workable responses. However, some answers concentrated less on the security and operation problems raised and more on the application of a disciplinary process. In the absence of operational advice, these did not score as highly as they might otherwise have done.

A number of candidates lost marks in part b) because they did not provide their answer in the report format requested.

Those answers which gave both technical and managerial responses scored most highly, reflecting the positioning of this question on the border between the two areas.