BCS THE CHARTERED INSTITUTE FOR IT

BCS HIGHER EDUCATION QUALIFICATIONS

BCS Level 6 Professional Graduate Diploma in IT

COMPUTER SERVICES MANAGEMENT

25th September 2018

Answer **any** THREE questions out of FIVE. All questions carry equal marks.

Time: THREE hours

Answer any Section A questions you attempt in Answer Book A

Answer any Section B questions you attempt in Answer Book B

The marks given in brackets are **indicative of** the weight given to each part of the question.

Calculators are **NOT** allowed in this examination.

EXAMINERS' REPORT

General Comments

The comments from previous examiners' reports continue to be valid, and in particular, one comment from previous examiners' reports warrants repeating, since there is evidence that examiners continue to see verbose answers with repetition that adds no value to the answer:

" However, some candidates used time by repeating the information given in the question or providing a commentary about the question's contents. Weaker candidates frequently spent valuable time on introductions and conclusions, often writing two or three pages that gained no marks. As candidates had an hour for each question, the examiners were surprised that, although candidates appeared to have the required knowledge and understanding, they provided brief answer points without further expansion or examples that illustrated those points.

Candidates should be aware that, at Professional Graduate Diploma level, questions require application of knowledge rather than just restating knowledge for sake of knowledge.

SECTION A

A1. Compare and contrast the following pairs:

a) Change Management and Asset Management **(9 marks)**

b) Help Desk and Service Desk **(8 marks)**

c) Application Software and Utility Programs **(8 marks)**

Answer Pointers:

a) Change Management and Asset Management

Both change management and asset management are involved in delivering project availability management.

Change management

Change management is a structured approach to moving an organisation from the current state to the desired future state. Organisational change is a constant in organisations today and can be driven by a range of different forces, including customers, markets and technology.

There are many models for change management within projects, the generic model shown below involves four stages:

- Determine Need for Change
- Prepare & Plan for Change
- Implement the Change
- Sustain the Change

Change management is usually successful where the following techniques are applied:

- Change can be introduced over a controlled time period so that employees have time to get used to it and adapt to it rather than having to instantly change every aspect of their job.
- Talking to and communicating effectively with the workforce about the change is also important as it allows for any queries or problems to be dealt with on a minor level before they become serious grievances.
- Training and adequate preparation of the workforce for the changes also helps because then they do not feel inadequate when they are required to deal with new procedures or machines or whatever changes may occur.

Asset Management

IT asset management is the set of business practices that link financial, contractual and inventory functions to support life cycle management and strategic decision making for the IT environment.

Assets include all elements of software and hardware that are found in the business environment.

Asset management is an important part of an organisation's strategy. It usually involves gathering detailed hardware and software inventory information which is then used to make decisions about hardware and software purchases and redistribution.

The use of an IT inventory enables organisations to manage their systems more effectively and saves time and money by avoiding unnecessary asset purchases and promoting the selling off / or scrappage of existing resources.

Organisations that develop and maintain an effective IT asset management programme minimise the risks of developing IT portfolio infrastructure projects based on old, incomplete and / or less accurate information.

Some examiner discretion was exercised. 5 marks maximum was awarded if only one term was discussed with a maximum 9 marks.

b) Help Desk and Service Desk

ITIL makes a distinction between the help desk and the service desk, and so do many IT professionals. The IT help desk and the IT service desk are both business functions, but there are real differences as listed in the table below:

Help Desk	**Service Desk**
IT help desk is end user focused. The ultimate goal of the help desk is to fix end user problems, while the ultimate focus of the service desk is to reduce costs and raise efficiency.	IT service desk is both end user focused and internally focused. With a service desk, there is an outward focus on the customer, but there's a natural inward

	focus on the day-to-day business processes.
IT help desks are tactical in that they are in place to solve problems as they arise. The help desk concentrates on solving client problems.	IT service desks are strategic. The service desk may have a help desk component, but it also has a goal of improving IT processes, monitoring and assessing current processes and trends.
The IT help desk is focused on fixing problems reported as they are reported. If a user or client has a printer problem the help desk concentrates checking printer drivers or on finding a workaround that will get the printers operating.	The IT service desk may notice that recently several people at the same site had problems printing, so the problem could be something deeper. The service desk is responsible for investigating the recurrence of these printer problems.
The same software could be used to run an IT help desk or IT service desk.	
IT service desk is looking for opportunities to ensure the IT help desk runs more efficiently. It can look into complaints about long phone queues and help tickets getting lost and make changes to find a solution, such as employing more help desk operators.	

(4 marks maximum if only one term discussed – maximum 8 marks)

c) Application Software and Utility Programs

Application software is a computer program designed to perform a group of coordinated functions, tasks, or activities for the benefit of the user whereas **utility programs** help to manage, maintain and control computer resources, further differences are listed in the table below:

Application Software	**Utility Programs**
Examples of application software are word-processors, spreadsheets, video players and databases.	Examples of utility programs are antivirus software, backup software and disk management tools.
Application software are computer based programs that are designed to perform some tasks that are grouped together and to help the user to complete their task efficiently.	Utility programs are designed to perform specific tasks that contribute to making the computing device work better and keeping the environment safe.
Application software is normally paid for and purchased from the web or computer shops	Utility programs are free if pre-installed in the computer.
An application program is usually large and takes a lot of space on the computer whereas a utility is smaller in size and takes less space and power in comparison	
An application program is mostly downloaded from the internet whereas a utility program is either already installed in the computer or becomes downloadable from the web	

(4 marks maximum if only one term discussed – maximum 8 marks)

Examiner's Notes

This question was answered by just over half of all candidates. There was evidence that candidates would benefit from preparing for this type of question as some answers did not effectively compare and contrast the two terms in each section, which limited achievement.

a) There was evidence that candidates were not completely aware of the aims of change management and asset management; in particular, candidates often focused too much on financial forecasting and monitoring and did not appreciate the strategic benefits of management of assets, nor effectively compare and contrast the two processes.

b) Generally well answered, with the majority of candidates successfully comparing and

contrasting the two functions, though there was some confusion over the responsibilities.

c) Whilst typically answered using an example of each type of question which demonstrated the difference to some extent, there is evidence that few answers gave an effective comparison with several candidates interpreting this question as comparing bespoke with off-the-shelf software.

A2. You work as the Computer Services Manager for a medium sized company that has ambitious plans for expanding its business. The Board has discussed future system requirements and is undecided whether to develop bespoke systems or to use standard application packages. Whatever the final decision, Computer Services will be responsible for ongoing system maintenance.

The Board has asked you to consider both options (bespoke systems or application packages) and to write a report which:

a) Describes the differences between bespoke and off-the-shelf software, including the advantages and disadvantages of both, **(11 marks)**

b) Discusses the likely impact on Computer Services if:
   (i) Bespoke software is used
   (ii) Standard application packages are used. **(14 marks)**

Answer Pointers:

a) Bespoke software is developed especially for your organisation and will meet your exact requirements. It can be developed by a software house or by an in-house development team. Bespoke software can take a long time to develop and the initial costs can be very high; however, there are no licence fees to pay so it may be cheaper in the long run. Maintenance costs will be high as these cannot be shared with other organisations (unlike a package). There may be a competitive advantage in using bespoke software as it is a unique solution for your organisation and may improve your productivity and efficiency.

Off-the-shelf software is ready made and is available from the developer without delay. The initial costs are lower than bespoke and will normally be based on a license fee for each copy that is installed. Other advantages include additional functionality, regular upgrades & bug fixes, lower training costs as materials and courses are often readily available. The package may not meet all business requirements, thereby not providing a unique solution. (11 marks maximum)

b) **Impact on Computer Services**

This part of the question is to be a discriminator as it is likely most candidates will gain some marks in Part a). The candidate will need to give some thought to their answer. Like impacts will include:

Bespoke:

- A need for extensive computing power and availability for testing
- A need to have significant staff for maintenance
- Higher budgets required
- Issues should the operating platform change
- Vulnerable to staff leaving
- Need to train new staff
- Easily scalable

Package:

- A need to negotiate with suppliers
- Difficulties in linking systems from different parts of the organisation
- Costly to scale
- Separate backup and recovery

There are seven marks for each – some examiner discretion.

(14 marks)

Examiner's Notes:

This question was answered by the vast majority of candidates (83%).

a) There is evidence that most candidates were able to identify several differences between the two options.

b) This section was not answered as well as part a, with evidence showing that candidates often repeated their answer from part a) without considering the impact the factors raised might have on the business. Answers rarely considered the context of the question (medium-sized business, looking to expand) which also limited achievement.

A3. *"The knowledge and skills needed to manage a modern computer services department are the same as those needed to manage a traditional computer services department."*

Discuss, and justify, the extent to which you agree or disagree with the above statement. **(25 marks)**

Answer Pointers

This question gives the candidate a good opportunity to demonstrate an in-depth knowledge of how the management of computer services has changed over the years.

An answer could be in various forms, but the better candidates would be expected to:

- Discuss those management areas which are similar, despite the passage of time. These could include concept of service, information security, compliance with legislation, management of software releases, provision of communications, staff management etc.
- Discuss those areas of change over time (growth of cloud computing, staff issues replaced with contract and SLA issues, mobile computing, use of multiple platforms, more complex legislation, remote working, complex DR, fewer and different staff, etc.)
- Arrive at a justified agree/disagree conclusion.

Marks

Fail mark range (0-9)
Candidate either **identifies** just one or two discussion points or uses weak or incomplete arguments and possibly agreeing or disagreeing with the statement without justification. Typically, the answer will have limited content.

Pass mark range (10-15)
Candidate **describes** three or four possible discussion points and the answer does have some content and the candidate's agreement/disagreement has some justification. There may be some gaps in understanding.

Medium mark range (16-20)
Candidate **considers** five or six discussion points and provides detailed explanations for each. A firm agree or disagree conclusion is reached and justified.

High mark range (21-25)

Candidate **discusses and analyses** a wide range of different discussion points which are justified by rational explanation and relevant examples. A fully justified agree or disagree conclusion is reached.

Examiner's Notes:

This question was answered by only a third of all candidates. Only around a third of submissions reached the pass mark range, and single digit submissions exceeding this.

There is evidence that answers typically described service management issues in a generic style without any analysis, which failed to discriminate between those areas that are new and those that have always been present to some degree, and provided conclusions that were not supported by the arguments presented. Weaker answers typically only made a single point in their argument (about modern technology and cloud in particular), which was insufficient to pass.

Candidates also failed to set expectations on what should be considered "classic" ITSM, with reference to modern ITSM e.g. referencing the Computer Misuse Act from 1990.

SECTION B

B4. Your organisation has been using the same email application for a number of years. The Board has agreed that it is time to seek a replacement system which allows staff access to a wider range of services, for example room booking, control of diaries, holiday and time-off requests.

a) Write a report for the Board which shows how you would go about specifying, procuring and commissioning the replacement system.

(15 marks)

b) Draft a Service Level Agreement (SLA) which would allow you successfully to manage such a system. You should state any assumptions which you make.

(10 marks)

Answer Pointers

a) The specification of report format is intended to prompt the candidate to provide a well-structured response which covers all the elements requested. Those candidates who do not use report format will lose marks.

The scenario is a common one for service managers, where an existing infrastructure has served its purpose but now needs to be replaced with a new generation of system with enhanced capability.

The answer should specifically address the areas of specification, procurement and commissioning for the new system. The ability to demonstrate an understanding of project management and the lifecycle of an IS/IT environment is key to this question. Those candidates who propose the use of an established project management infrastructure are likely to score well.

Up to THREE marks will be awarded for format and overall style. Up to FOUR marks will be awarded for each of specification, procurement and commissioning.

b) Similarly, the service level agreement (SLA) is a core aspect of managing IS/IT service delivery.

The candidate should present a well-structured, competent analysis of the key areas of service for the new system, note constraints and potential issues, and follow the classic formula for such documents. The aim is to produce a realistic document which would pass scrutiny in a live service environment.

Examiner's Comments:

This question was attempted by almost 42% of candidates. The pass rate was 50%.

This is a familiar example of service management and a number of candidates provided good, cogent and well-structured answers to this question. In a number of cases, however, there is evidence that answers were provided which fell short of the standard needed to reach a pass mark at this level. Some were almost devoid of content and had little detail to show relevance to the question being asked.

B5. The increased use of smartphones has caused organisations to consider appropriate "Bring Your Own Device" (BYOD) policies. As the Information Security Manager for a large public organisation, you have been asked to develop a policy to manage the use of smartphones in the workplace.

a) Describe, with examples, THREE areas of risk to the information security management of your organisation which the uncontrolled use of smartphones in the workplace can bring.

(12 marks)

b) For ONE of these areas of risk, give a detailed analysis of how the risk might be managed. This should be in the form of a technical report and include a clear statement of management policy.

(13 marks)

Answer Pointers

The security risks associated with Bring Your Own Device (BYOD) in a corporate environment are significant. The days when security could be established with a perimeter firewall are long gone.

Organisations need to establish what access they will grant BYOD users to the corporate network, how access will be segmented and how a security policy can be implemented on a device they do not own.

As a minimum, effective anti-virus and anti-malware software should be procured for the BYOD user, and consideration should be given to the provision of technical support.

Minimum standards for hardware and software specification should be established to ensure that use of resources by BYOD users in effective and efficient.

With regard to data protection, the Information Commissioner's Office lists the following areas of concern as a basis for discussion:

- Which type of corporate data can be processed on personal devices
- How to encrypt and secure access to the corporate data
- How the corporate data should be stored on the personal devices
- How and when the corporate data should be deleted from the personal devices
- How the data should be transferred from the personal device to the company servers

a) Up to FOUR marks for each of THREE areas of concern, which could include – but are not limited to – those above.

b) The report format is intended to aid the delivery of a standard business document. Up to THREE marks are available for appropriate use of report format and general style. Those candidates who do not employ this format will lose marks.

Up to FIVE marks will be awarded for the method of managing the named risk, and up to FIVE marks for the management policy statement which supports this.

Examiner's Comments:

This was a very popular question, the most popular on the current paper, with over 90% of candidates attempting to answer it. The pass rate was 50%.

The entire field of security and corporate/personal data is in the public spotlight, not least because of the impact of GDPR on the industry. There is evidence that many candidates gave good answers which easily reached a pass mark. Those who failed to do so provided answers which were often short and lacked key information.

Some candidates lost marks in part (a) because they failed to provide the required three areas of risk – or the areas cited were too similar to allow additional marks. Candidates are encouraged to ensure that they provide the answer in the manner requested in the question.