

Teacher Resource Bank

GCE Information and Communication Technology
INFO3: The Use of ICT in the Digital World

Candidate script extracts with commentaries from
June 2010 examination



INFO3 Exemplar work

These support materials for teachers of GCE ICT provide examples of candidates' answers to the questions set for the June 2010 examination. These answers should be read in conjunction with the *Report on the Examination* and the *Mark Scheme*, which are available on [e-AQA](#). A commentary from a senior examiner accompanies each selected answer.

Further examples will be provided at the Teacher Support meetings for INFO3 which are to be held in autumn 2010.

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QUESTION 1

- 1 Globemob's consultants recommended that emerging ICT technology is one factor that should be taken into account when developing a future ICT strategy.

Explain other factors that Globemob should take into account when developing an ICT strategy.

One factor that should be taken into account is the Business goals. For example Globemob may wish to be the best within their business field. Another factor is the available finances, for example Globemob will have to ensure that it has enough funds to purchase upgrades, etc. A third factor is that the legacy system has to be taken into account, for example Globemob would have to ensure that any new system is compatible with the legacy system so that old data can be used. A fourth factor is the geography of the client, for example Globemob may wish to expand so would expand to where most of its clients are. A fifth factor is compliance, Globemob must ensure that it abides by legislations such as the Data Protection Act 1998 (DPA).

(6 marks)

MIX

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| 6 |
| 6 |

Commentary

The examiners were looking for factors to be taken into account when developing a future ICT strategy. Answers that gained credit could mention six different factors (showing breadth of knowledge) or fewer factors considered in more depth showing more understanding. This candidate identified four factors, two of which were expanded.

QUESTION 2

2

Globemob's consultants suggested that the failure of previous ICT projects could have been avoided if management and end users had been involved in the development of the solutions.

Discuss the factors that can contribute to the development of a successful ICT solution. (12 marks)

There are now ICT projects that either fail or are a success. A number of factors contribute towards this and if carried out correctly this can be avoided. One of the factors that can contribute to the development of a successful ICT solution is thorough analysis. This is carried out at the beginning of development and contributes towards success because if the developer has a deep understanding of the current problems of the current system and a clear understanding of the client's requirements, it will guide the project and each stage can be referred back to the requirements to ensure they are been met. As well as understanding the requirements of the client/users etc, another factor that contributes to the development of a successful ICT solution is clear communication throughout the project with users of the new system and the client. This makes an ICT solution more successful because if they are been contacted after or even during each stage of development they can ensure they are on track to ~~start~~ delivering the right solution. Furthermore they may want to make changes along the way.

Turn over ▶

Another factor that contributes to a successful ICT solution is testing. The newly developed system should be tested to ensure when commission occurs minimal errors arise. This should be done by the developers (Alpha testing) and by the user (Beta testing) who may point out errors when been used in the correct environment. Inadequate testing contributes towards the failure of many systems therefore this should be carefully planned.

Training should also be given and this is another factor that will contribute towards a successful ICT solution. There are a number of methods that this could be done by e.g. internally or externally, but to ensure that a new ICT solution is successful all users should be trained so they know how to use it properly and to its full efficiency.

Overall there are several factors that contribute towards a successful ICT solution, and users should be heavily involved even before the end of the development because after all their going to be using the solution and will provide the best insights regarding improvements / errors etc. The ICT solution should be well planned with sufficient deadlines for each stage so some tasks that can't be carried out till a previous one is completed. A developer want to ensure quality, successful projects should be delivered exactly on time.

Mx

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| 12 |
| 12 |

Commentary

This candidate has discussed four relevant factors in depth and gained full marks. Alternative high scoring answers may have included more factors in less depth. Note that credit was not given for user training, as this activity is not part of the development process.

QUESTION 3(a)

- 3 (a) Globemob's consultants suggested that external providers be used for all ICT services.

Describe the ICT services that could be provided externally and explain the reasons why Ms Broussard might have concerns about using external providers rather than keeping the provision in-house. *outsourcing, leasing, contracting*

One external ICT service that is available to Globemob is outsourcing, this is where a third party company performs certain tasks for Globemob. Ms Broussard may have concerns, as Globemob will not be in control if tasks are given to an outside company. Another external factor is leasing, this is where hardware is hired, not purchased. The concern that Ms Broussard may have is that leasing can work out more expensive in the long term, as the company is continuously paying for the hardware, instead of a one off payment. A third external factor is contracting, this is where Globemob will pay for someone outside of the company to do certain tasks, such as deal with the network. The concern that Ms Broussard may have is that ~~contracting~~ it may work out more expensive over time as contractors are often ~~more~~ expensive as an agency will find the employee → so the agency will get some of the money.

(9 marks)

9

Turn over ▶

Commentary

The candidate gained full marks. External services have been described and the possible concerns listed.

QUESTION 3(b)

3 (b) One method of providing external ICT services is through outsourcing.

Describe what is meant by outsourcing.

Outsourcing is where an organisation will get a third party company (with specialist equipment) to perform certain jobs for the organisation. For example Sclabemob may wish to print news letters, and so will get a company that specialises in bulk printing to print the news letters for Sclabemob.

BOD

(4 marks)

3

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| 12 |
| 13 |

Commentary

This candidate has provided a basic description of outsourcing and an example of bulk printing. A further mark could have been given had an extended description been available, possibly including a reference to service levels.

QUESTION 4

- 4 The consultants considered Globemob's Information Security Policy to be inadequate for current and future operations.

With reference to Globemob's Information Security Policy, identify those areas which you consider to be inadequate, making suggestions for improvements that should be made. (16 marks)

The Information Security Policy is inadequate as there are areas which are not mentioned in the policy. One area is Individual Information Security, as it does not cover security on the machines. For example: there is no mention of user names or passwords for them. Therefore I suggest that user names and passwords be created to ensure security.

Access levels are another feature which has not been included. Without access levels, users are free to access, edit or even delete personal information which could be critical to the company. There is also no mention of what to do when you leave a machine unattended. It is necessary to either lock or log off a machine so that someone doesn't damage the company, for example by deleting data.

Personal use of facilities is another area which is inadequate as there is no mention of social networking sites, such as Facebook. This could mean that employees could access these websites during work hours. Also Instant Messengers are another piece of software which has not been mentioned and could cause problems.

Turn over ▶

There is also no mention of who can use the company's facilities. It may be obvious that it is for the employees use only but it should be mentioned. ✓

With regards to monitoring, there is no reference to how the system will be monitored, e.g. through the use of audit trails or logs. ✓

There is no mention of a restriction on flash drives which would mean that employees could possibly copy private data to be sold on to another company, otherwise this could interfere with the data protection act. ✓

13

12
16

Commentary

In general, some areas of inadequacy have been identified and valid improvement measures suggested. Only the best candidates scored highly on the question and not many gained the available 16 marks. The answer above is typical example of an answer from a better-than-average student.

QUESTION 5(a)

5 A national supermarket chain employs staff at strategic, tactical and operational levels. Examples of tasks that staff at the different levels undertake might include:

- Strategic - determining the location of a new store
- Tactical - managing changes in customer demand for bakery products
- Operational - restocking shelves.

5 (a) Complete the table below by identifying the key characteristics of information required for strategic, tactical and operational tasks.

| | Level of detail in the information required | Time-span of decision making | Purpose for which information is required |
|-------------|--|--|--|
| Strategic | Main Overview Information Yearly Annual Financial overview Profit | Can take a long time, takes one year to gather information. All factors will have to be considered. Meetings with board members and stock holders. | To give the company direction. Announce Profits. Complete Company and give departments their budgets |
| Tactical | Still an overview but concentrated (quarterly) financial overview for one department | Not too long (quarterly) Monthly meetings will decide direction of department for a season. | To direct operational staff and give reports to Strategic staff |
| Operational | Quite detailed - (Day to Day processing) will process individual transactions | Instantaneous - will be told what to do. will complete transactions, complete processes. | Day to Day business fulfillment. Complete jobs company needs to function. Outputs go to |

Customer and tactical (9 marks)

9

Commentary

This candidate clearly understood the key characteristics of information required for staff at different levels and the application of this knowledge to a supermarket situation.

QUESTION 5(b)

5 (b) Name and justify an appropriate training method for each of the following. The training method must be different in each case.

5 (b) (i) Strategic staff

~~Person~~ Instructor led training: Strategic Staff will need to know how to operate important systems such as an MIS. There is not a lot at strategic management therefore the costs for having an instructor will be limited. Will allow for strategic staff to ask questions (2 marks)

2

5 (b) (ii) Tactical staff

Computer based: This will be appropriate as computer based training allows for many staff to be trained at once. Tactical staff would have to be able to learn at their own pace, meaning it is flexible around them. It is cost effective against instructor led training as the organisation does not have to pay for travel or instructor costs (2 marks)

2

5 (b) (iii) Operational staff

On-the-Job: This will be appropriate as their jobs will often be manual. Therefore it will not be too stressful to learn on job. The company will ^{not} have to pay for training expenses. As employees are working as they are training, the company will be gaining money (2 marks)

2

15

Commentary

Candidate has correctly named and justified appropriate training methods. Unlike some candidates, the common mistakes of not naming appropriate training methods have been avoided.

QUESTION 6

6

^{Volume, scalability, functional test, operational test, environment}
 A large organisation is about to develop a new Sales Order and Stock Control System. The Chief Executive has past experience of systems that have not operated reliably due to inadequate testing and has requested further information about the testing of large ICT systems.

Write a brief report for the Chief Executive to describe the testing necessary to ensure the reliable operation of a large ICT system. As your report is for a person who is not an ICT specialist, you must include an explanation of any technical terms used.

(18 marks)

To ensure the reliable operation of a large ICT system, a series of tests have to be carried out. Firstly a functional test will be carried out, this is where all of the buttons (functions) of the new system are tested, this will ensure that all buttons within the system work successfully and there are no problems for example on the stock control system, the buttons where for stock selection and printing reports are checked and any problems are corrected → this will ensure that no problems occur with the functionality when its in use in the real world. Another test that should be carried out is an operational test, this is where all of the processes are tested to ensure that there are no programming errors with the system, any errors found will be dealt with for example products would be entered into the new system and a total price will be calculated → if there are any errors then they will be corrected.

and the task is redone. A third test that should be carried out is a volume test, this is where software is written to input large amounts of data to see if the system can cope with it. For example the highest amount of recorded sales that was recorded from the organisation will be inputted into the new system within the same time period to see if the system can cope. Any errors that arise will be dealt with. A fourth test that should be carried out is a scalability test, this is where software is written to input large amounts of data continuously into the new system until the performance of the new system drops. For example large numbers of sales will be put into the new stock control system until performance drops (i.e. processing drops). Any problems that arise will/should be dealt with. A fifth test that should be carried out is prototype testing, this is where a prototype of the new system is tested in a small area of the organisation in the real world. For example the prototype may be tested in one store of the organisation and any problems that arise will be dealt with.

Turn over ▶

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| 15 |
| 18 |

Commentary

This answer identifies appropriate testing approaches for a large organisation, including excellent and relevant descriptions of volume and scalability testing. However, the prototype testing has been confused with pilot testing.

Note the brief planning notes made by the candidate which have resulted in a well structured answer.

Note also how the candidate has provided good explanations for the technical terms used.

QUESTION 7 – Essay question and mark ranges used

Discuss how developments in the technologies used in entertainment and social interaction are now influencing the way in which organisations are run.

The quality of written communication will be assessed in your answer.

Mark Scheme

Low mark range

Candidate **identifies** some developments in technology but typically uses a form and style of writing that is barely appropriate for its purpose. Candidate has expressed simple ideas clearly but may be imprecise and awkward in dealing with complex or subtle concepts. Information or arguments may be of doubtful relevance or be obscurely presented. Errors in spelling, punctuation and grammar may be noticeable and intrusive to understanding, suggesting weaknesses in these areas. Text is barely legible.

0-5 marks

Medium mark range

Candidate **describes** developments in technology and uses a form and style of writing which is sometimes appropriate for its purpose but with many deficiencies. Candidate has expressed straightforward ideas clearly, if not always fluently. Sentences and paragraphs may not always be well-connected. Information or arguments may sometimes stray from the point or may be weakly presented. There may be some errors of spelling, punctuation and grammar but not such as to cause problems in the reader's understanding and not such as to suggest a weakness in these areas. Text is legible.

6-10 marks

Good mark range

Candidate **explains** relevant developments in technology and the meanings and arguments are clear. Candidate has in the main used a form and style of writing appropriate for its purpose, with only occasional lapses. Candidate has expressed moderately complex ideas clearly and reasonably fluently. Candidate has used well-linked sentences and paragraphs. Information or arguments are generally relevant and well structured. There may be occasional errors of spelling, punctuation and grammar. Text is legible.

11-15 marks

High mark range

Candidate has **analysed the relationship** between technology developments in entertainment/social interaction with the way organisations are run. Meaning is clear. Candidate has selected and used a form and style of writing appropriate to purpose and has expressed complex ideas clearly and fluently. Sentences and paragraphs follow on from one another clearly and coherently. Specialist vocabulary has been used appropriately. There are few, if any, errors of spelling, punctuation and grammar. Text is legible.

16-20 marks

7

Discuss how developments in the technologies used in entertainment and social interaction are now influencing the way in which organisations are run.

In this question you will be marked on your ability to use good English, to organise information clearly and to use specialist vocabulary where appropriate.

(20 marks)

This space is available for planning your answer, if you wish to use it.

- Include
- social networking
 - computer based records .
 - mobiles store films - store data.
 - smart phones .
 - laptops .
 - cloud computing .
 - skype + conferencing .
 - PDA .

Organisations have to adapt to the ever changing business and technological world in order to be successful. We notice that currently the organisations thriving in this economic downturn seem to have grasped the concept of emerging technology and seem to have made their company more efficient. Mobile phones would be the best example to highlight how technology has entered business. The new smart phones produced by several companies ensure that communication is made much easier.

Turn over ▶

Function such as email and the benefit of internet access could prove invaluable for an organisation. For example a ~~land~~ land consultant could be sent an email regarding a ~~new~~ development, he/she could then find the location of the site on his phone, before taking pictures to send to his colleagues. Devices such as smart phones have allowed users to be carried out much quicker than previously and ensured that communications links within the company are of a high standard.

Linked to this is ~~the~~ increased use of laptops and PDA, previously used for entertainment and gaming activities are now used by companies worldwide. Many managers and young adults use laptops for leisure purposes and for fun, however they have emerged as a fundamental part of business in the current day. Technology such as laptops not only allow for ~~the~~ communication benefits but also allow ~~more~~ employees to work in different locations. The portability of laptops has increased over the last 2 years which now allow employees to work on the go or from home.

Despite this it is not only software which has been adopted by companies. In the past years software such as Skype has allowed people to talk in a global society, as a result the business world and especially international organisations have picked up on the concept. Companies are now using Skype in addition to video conferencing as a means of communicating to other employees on the other side of the world/different locations. Moreover social networking sites such as Facebook have been recognised by business. Social networking is widely ~~not~~ recognised as a means of communicating with friends in a fun and friendly manner. Despite this businesses have seen the benefits in regards to advertising and marketing their company, hence why we see the everlasting advertisements on one side of the screen. Cloud computing seems to be the major concept unveiling itself on the world stage. This allows applications to be run online rather than saved to the hard drive. Many companies, many industries are beginning to understand the benefits to

Turn over ▶

cloud computing. For example no software needs to be installed on the machine resulting the network runs smoothly and it allows files to be saved in a specific area so they can be accessed by the authorised personnel.

Overall I would argue that smart phones and laptops, previously viewed as "leisure time gadgets" are now at the forefront of global business as a result of the ever developing technologies. They are now essential in ensuring communication and tasks are carried out to a high standard. I expect to see a continual increase in the usage of such devices in the future years as a result of more people working from home and off site locations.

END OF QUESTIONS

Commentary

A comprehensive answer that links the use of entertainment technology to organisational use and provides a range of relevant examples to illustrate the points made. There are some issues with the use of English, otherwise full marks would have been given.