GCE A level

1243/01

INFORMATION AND COMMUNICATION TECHNOLOGY – IT3
Use and Impact of ICT

A.M. MONDAY, 21 January 2013

2½ hours

ADDITIONAL MATERIALS

You will need a WJEC 20-page booklet (pink), which has been specifically designed for this examination. No other style of answer booklet should be used. Should you run out of space, use a standard 4 page continuation booklet.

INSTRUCTIONS TO CANDIDATES

Use black ink or black ball-point pen. Do not use a gel pen or correction fluid.

Answer **all** questions in Section A and **one** question group in Section B.

Use both sides of the paper. Write only within the white areas of the book.

Write the question number in the two boxes in the left hand margin at the start of each answer.

Leave at least two line spaces between each answer.

The intended marks for questions or part questions are given in brackets [ ]. You are advised to divide your time accordingly. The total number of marks available is 90.

You are reminded of the necessity for good written communication and orderly presentation in your answers.

Quality of written communication will be assessed in question 13.

SECTION A

*Answer **all** questions.*

0 1	A Human Computer Interface (HCI) allows a computer to be used. Other than *disabled access* and the *expertise of the user*, state **three** factors which should be taken into account when designing a good HCI. Illustrate **each** factor with a suitable example. [3×2]
0 2	Describe, using examples, the features of a HCI that would help a disabled person use a computer. [4]
0 3	A company needs to change its network. Compare and contrast *client server* versus *peer to peer* networks for the company. [6]
0 4	An organisation is considering using a wireless network. Describe **two** advantages and **two** disadvantages for the organisation of using a wireless network over a cable network. [4]
0 5	A large *Research Agency* uses ICT systems to store customer records and all its financial functions. Explain why the agency should have a security policy and give **two** examples of what it should contain, other than *user accounts* and *logs*. [4]
0 6	Describe the use of *user accounts* and *logs* as a way of maintaining the security of customer records. [3]
0 7	A company already advertises its products on their website. Describe the **four** main requirements the company has to put in place so that the website can be used for interactive online shopping. [4]
0 8	Discuss *different* advantages and disadvantages that e-commerce brings **both** to the company and to the customer. [8]
0 9	Other than how well the company is equipped to deal with the risk, describe in detail **three** of the factors an organisation needs to consider when producing a risk analysis. [6]
1 0	A bank is reviewing its disaster recovery programme. Other than *risks*, explain with reasons **three** factors, which should be included in a disaster recovery programme. [6]
1 1	More and more organisations are becoming very dependent on their Management Information Systems (MIS). Describe in detail **four** factors that can lead to an *effective* MIS. [8]
1 2	A local council has a *code of conduct* for all of its employees who use ICT systems. Define what is meant by a code of conduct and describe **four** guidelines it should contain. [6]
1 3	*"Nobody really owns the Internet or tries to control it."* Discuss with suitable examples, whether you think that this statement is true or false. [8]

SECTION B

*Answer **either** questions 14 to 16 **or** questions 17 to 20.*

| 1 | 4 | When developing a new computer system, a systems analyst will have to investigate to produce the feasibility report. Describe what will be investigated in order to produce this report. [5] |

| 1 | 5 | Once a new computer system has been designed, it has to be implemented. Discuss **two** different changeover strategies that an organisation could use for conversion to the new system. [6] |

| 1 | 6 | Once the new computer system is up and running, it has to be maintained. Describe **two** different system maintenance methods and illustrate **each** method with *appropriate* examples. [6] |

| 1 | 7 | Data in a relational database is normalised. Explain what is meant by a *relational database* and *data normalisation*. [4] |

| 1 | 8 | Describe the terms *data redundancy, data integrity* and *data consistency* in relation to a relational database approach over a flat-file approach. [3×2] |

| 1 | 9 | Give **two** reasons why relational databases are more secure than the flat-file approach. [2] |

| 2 | 0 | Modern technology also makes use of *distributed databases*. Define what is meant by a distributed database. Describe **two** *security issues* that apply to distributed databases and suggest **a different** method for overcoming **each** issue. [5] |