



GCE A level

1243/01

**INFORMATION AND
COMMUNICATION TECHNOLOGY – IT3
Use and Impact of ICT**

A.M. TUESDAY, 17 June 2014

2 hours 30 minutes plus your additional time allowance

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 or your usual method.

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 14.

SECTION A

Answer ALL questions.

- 01 A novice user and an expert user have different needs when using a computer. Discuss these differing needs and then describe how different HUMAN COMPUTER INTERFACES (HCI) can address these needs. [5]
- 02 Describe the factors that should be taken into account when designing an appropriate HCI that would be used by a young child learning how to spell. [4]
- 03 A company is considering installing a wireless network. Describe TWO ADVANTAGES and TWO DISADVANTAGES for the COMPANY, other than health concerns, of using a wireless network over a cabled network. [4]
- 04 PEER-TO-PEER and CLIENT SERVER networks are two types of network. Compare and contrast these two types of network. [6]

- 05** The Data Officer of a large company has written a security policy for that company. Explain why the company should have a security policy. Other than **USER ACCOUNTS** and **LOGS**, give **THREE** examples of what it should contain. [5]
- 06** Describe the use of **USER ACCOUNTS** and **LOGS** as a way of keeping confidential data secure. [3]
- 07** Many large data processing projects now make use of distributed computing. Explain what is meant by **DISTRIBUTED COMPUTING** and describe an application which uses it. [5]
- 08** Discuss the **ADVANTAGES** and **DISADVANTAGES** of **DISTRIBUTED COMPUTING**. [4]
- 09** A global market research company uses **FILE TRANSFER PROTOCOL (FTP)**. Describe in detail what is meant by **FTP**, state a use and give an advantage to the company of using **FTP**. [4]
- 10** Describe **THREE DIFFERENT** examples which illustrate the difference between legal and moral issues with respect to **CODES OF CONDUCT**. [6]

- 11 **A finance company is carrying out a risk analysis. Describe in detail THREE of the factors the company should take into account when deciding how much to spend to control and minimise the risk to data. [3x2]**
- 12 **A company has installed a new ICT system which will have to be maintained. Describe TWO DIFFERENT methods of system maintenance, illustrating each method with an appropriate DISTINCT example. [2x3]**
- 13 **Describe the factors which make a MANAGEMENT INFORMATION SYSTEM (MIS) either good or poor. [6]**
- 14 **Improvements in communication systems have made it possible for more and more people to work from home using computer networks, often called TELEWORKING. Discuss the ADVANTAGES and DISADVANTAGES to employees and companies of TELEWORKING. [8]**

SECTION B

Answer EITHER questions 15, 16, 17 and 18 OR question 19.

- 15 Explain what is meant by a **RELATIONAL DATABASE**. [2]
- 16 A car hire company uses a relational database management system for organising its rentals. For simplicity, a person may only hire one car at a time. Part of one table in the car hire database could be:
- CAR [CarID, Make, Model, Colour, Year of registration, Hire rate,]**
- with CarID being the primary key.
- Give **TWO** other suitable tables you could expect to see in this database, identifying any primary and foreign keys and at least **TWO** other fields in **EACH** table. [7]
- 17 Describe how the car hire database structure could be improved to allow a person to hire more than one car at a time. [1]
- 18 Using appropriate examples, describe the **ADVANTAGES** of a **RELATIONAL DATABASE** approach over a **FLAT FILE** approach. [8]

19 According to a survey, the average 21 year old has:

- **spent 5000 hours videogaming;**
- **sent 250,000 email messages;**
- **spent 10,000 hours on a mobile phone.**

Discuss using appropriate examples the benefits and concerns these activities cause for modern society.

[18]

END OF PAPER