WJEC CBAC

GCE A level

1243/01

INFORMATION AND COMMUNICATION TECHNOLOGY – IT3
Use and Impact of ICT

A.M. MONDAY, 20 January 2014

2½ hours

ADDITIONAL MATERIALS

In addition to this examination paper, you will need **one** 12 page answer book.

INSTRUCTIONS TO CANDIDATES

Use black ink or black ball-point pen.

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

The number of marks is given in brackets at the end of each question. The total number of marks available is 90.

You are reminded that assessment will take into account the quality of written communication used in your answers.

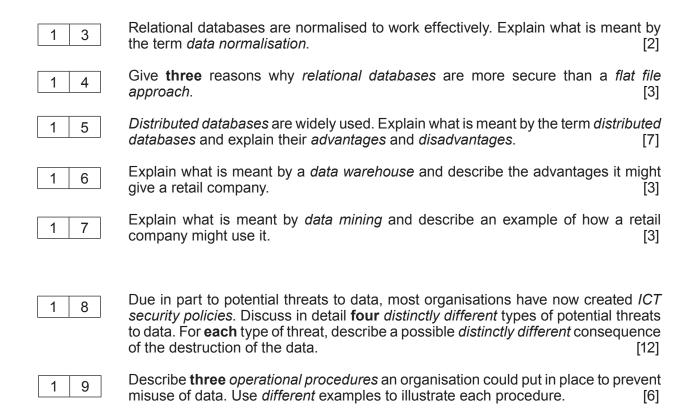The quality of written communication will be assessed in question **12**.

SECTION A

Answer **all** *questions.*

| 0 | 1 | A poorly designed *Human Computer Interface* (HCI) can affect the performance and efficiency of a computer system. Other than *'differentiation between user expertise'*, discuss in detail **four** factors that should be taken into account when designing a good HCI. [4×2] |

| 0 | 2 | A local company needs a new network. Other than *cost* or *topology*, describe in detail **three** factors that they should take into account when choosing the new network. [3×2] |

| 0 | 3 | Discuss the relative *advantages* and *disadvantages* of *ring* and *star* topologies. [6] |

| 0 | 4 | A system analyst has a choice of *direct changeover* or *parallel running* when updating a computer system. Describe these **two** *different* potential changeover strategies and describe the *advantages* and *disadvantages* of each of the *different* strategies. [6] |

| 0 | 5 | A network manager uses remote management when managing the network. Describe **six** tasks that the network manager could do using remote management. [6] |

| 0 | 6 | Discuss the *advantages* and *disadvantages* of *dialup* and *broadband* connections when using the Internet. [6] |

| 0 | 7 | Describe in detail **three** *fears* the workforce may have when a new ICT system is introduced into their workplace. [3×2] |

| 0 | 8 | Describe, using examples, **two** things that management could do to lessen any fears that the staff might have about the introduction of a new ICT system. [4] |

| 0 | 9 | Describe, in detail, **four** of the factors which make an effective *Management Information System* (MIS). [8] |

| 1 | 0 | Other than *being able to work from anywhere*, describe the *advantages* and *disadvantages* for the worker of mobile access to the Internet. [4] |

| 1 | 1 | A company already has a website and a network. Describe in detail the **four** main requirements that they need to put in place to enable them to offer an on-line shopping facility to customers. [4] |

| 1 | 2 | Discuss the *advantages* and *disadvantages* of on-line shopping to both the company and the customer. [8] |

SECTION B

*Answer **either** questions 13, 14, 15, 16 and 17 **or** questions 18 and 19.*

| 1 | 3 | Relational databases are normalised to work effectively. Explain what is meant by the term *data normalisation*. [2] |

| 1 | 4 | Give **three** reasons why *relational databases* are more secure than a *flat file approach*. [3] |

| 1 | 5 | *Distributed databases* are widely used. Explain what is meant by the term *distributed databases* and explain their *advantages* and *disadvantages*. [7] |

| 1 | 6 | Explain what is meant by a *data warehouse* and describe the advantages it might give a retail company. [3] |

| 1 | 7 | Explain what is meant by *data mining* and describe an example of how a retail company might use it. [3] |

| 1 | 8 | Due in part to potential threats to data, most organisations have now created *ICT security policies*. Discuss in detail **four** *distinctly different* types of potential threats to data. For **each** type of threat, describe a possible *distinctly different* consequence of the destruction of the data. [12] |

| 1 | 9 | Describe **three** *operational procedures* an organisation could put in place to prevent misuse of data. Use *different* examples to illustrate each procedure. [6] |

END OF PAPER