GCE A level

1243/01

INFORMATION AND COMMUNICATION TECHNOLOGY
IT3
USE AND IMPACT OF ICT

P.M. THURSDAY, 26 January 2012

2½ hours

ADDITIONAL MATERIALS

In addition to this examination paper, you will need a 20 page answer book.

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 in Section A.*

| 0 | 1 | A good Human Computer Interface (HCI) is vital for an information system to work well. Other than *layout appropriate to task*, describe **four** factors which should be taken into account when designing a good HCI. Explain why **each** factor is important. [4 x 2] |

| 0 | 2 | Other than *cost* or *security issues*, explain in detail **two** factors that could influence the choice of a network for a company. [2 x 2] |

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

| 0 | 4 | Discuss the advantages and disadvantages of *dialup* and *broadband* connections when using the Internet. [4] |

| 0 | 5 | Mobile access to the Internet has led to changes in *work patterns*. Describe the advantages and disadvantages, for the worker of mobile access to the Internet. [5] |

| 0 | 6 | Most organisations now use Management Information Systems (MIS). Describe what is meant by an MIS, and use a suitable example to illustrate how it can be used. [4] |

| 0 | 7 | Describe the factors which make a Management Information System (MIS) either good or poor. [7] |

| 0 | 8 | Describe **three** factors an organisation needs to consider when producing a *risk analysis*. [6] |

| 0 | 9 | A local council uses a network to manage their client records, appointments and all their financial functions. The council's Information Officer is worried about the confidentiality of the records. Explain why the council should have a security policy. Other than *user accounts* and *logs*, give **three** examples of what it should contain. [5] |

| 1 | 0 | Describe the use of *user accounts* and *logs* as a way of keeping records secure. [3] |

| 1 | 1 | Explain what is meant by *distributed computing* and describe an application which uses it. [5] |

| 1 | 2 | Discuss the advantages and disadvantages of distributed computing. [4] |

| 1 | 3 | During the *design* phase of the *system development life cycle* many issues need to be considered. Other than *design of hardware*, describe in detail **four** features or processes which should be considered when designing a new computer system. [8] |

| 1 | 4 | Following a company takeover, the introduction of new ICT systems has a big impact upon the workforce and working patterns. These changes have to be carefully managed. Describe in detail **four** different *consequences of change* caused by the introduction of new ICT systems. [4] |

SECTION B

*Answer **either** questions 15 and 16 **or** questions 17, 18,19, 20 and 21.*

| 1 | 5 | The Internet has had a huge impact on businesses and the way they operate. Evaluate the impact that e-commerce has had on businesses and their customers. [10] |

| 1 | 6 | Society is concerned that there is no real ownership or control of the Internet. Using suitable examples, discuss these concerns. [7] |

| 1 | 7 | Many companies would now struggle to operate effectively without database technology.
Explain what is meant by a relational database. [2] |

| 1 | 8 | Using appropriate examples, describe the advantages of a relational database approach over a flat file approach. [6] |

| 1 | 9 | Describe what a *data warehouse* is and give an example of how a company might use it. [3] |

| 2 | 0 | Explain what is meant by *data mining* and give a detailed example of how a company might use it. [3] |

| 2 | 1 | Discuss in general terms, the advantages and disadvantages *distributed databases* give to a company. [3] |