



GCE A level

1243/01

**INFORMATION AND
COMMUNICATION TECHNOLOGY**

IT 3

USE AND IMPACT OF ICT

P.M. WEDNESDAY, 26 January 2011

2½ hours

ADDITIONAL MATERIALS

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

INSTRUCTIONS TO CANDIDATES

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

Answer **all** questions in Section 1 and **one** question in Section 2.

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 G and question H.

SECTION 1

Answer all questions.

Question A.

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| 0 | 1 |
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 As computer systems have become more complex the interface has become increasingly important. Other than *differentiation between user expertise*, describe **four** factors that should be taken into account when designing a good human computer interface and for **each** factor describe why it is important. [8]

Question B. A multi-national company uses FTP.

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| 0 | 2 |
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 Describe in detail what is meant by FTP. [2]

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| 0 | 3 |
|---|---|

 Describe an advantage it gives the company and give an example of its use. [2]
The company also makes use of the internet.
Define and explain how the following can be used to access information:

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| 0 | 4 |
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 URL (Uniform Resource Locator) [2]

| | |
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| 0 | 5 |
|---|---|

 Web crawler [2]

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|---|---|
| 0 | 6 |
|---|---|

 Boolean search. [2]

Question C.

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| 0 | 7 |
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 Other than cost or size of the organisation, explain in detail **three** factors that could influence the choice of a computer network for the organisation. [6]

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| 0 | 8 |
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 Peer-to-peer and client server are two types of computer network. Compare and contrast the **two** types of network. [6]

Question D.

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| 0 | 9 |
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 Parents of young children are very concerned about the lack of control of the internet. Discuss, using suitable examples, their likely concerns. [8]

Question E.

The first step in producing a new computer system is to investigate the existing system and produce a feasibility report.

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| 1 | 0 |
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 Describe **two** different ways a systems analyst can gather information about the existing system. [4]

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 Describe the purpose of the feasibility report and what should be included in the report. [4]

Question F. A hospital has a ‘code of conduct’ for all of its employees using ICT systems.

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| 1 | 2 |
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 Describe what is meant by a ‘code of conduct’ and describe **four** guidelines it should contain. [6]

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|---|---|
| 1 | 3 |
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 Explain how the hospital management can enforce the code of conduct. [2]

Question G.

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|---|---|
| 1 | 4 |
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 The improvement in computer power has led to more people being able to work from home using computer networks, often called teleworking.
Discuss, with the aid of suitable examples, the advantages and disadvantages to employees and companies of teleworking. [8]

Question H.

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| 1 | 5 |
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 A large travel agency has concerns about losing data. They are reviewing their disaster recovery procedures.
Explain with reasons **four** factors which should be included in a disaster recovery plan. [8]

Turn over for Section 2.

SECTION 2

Answer **either** question I or question J.

Question I. Many schools are now heavily dependent on their Management Information System (MIS).

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| 1 | 6 | Define what is meant by a MIS and describe, using an appropriate example, a task that could best be accomplished using the MIS. | [4] |
| 1 | 7 | Describe in detail four features of a good MIS. | [8] |
| 1 | 8 | Describe in detail four factors which can lead to a poor MIS. | [8] |

Question J. Relational databases are becoming increasingly important to all organisations that handle data.

Explain what is meant by **each** of the following terms:

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|---|---|--|-----|
| 1 | 9 | <i>data consistency,</i> | |
| 2 | 0 | <i>data redundancy,</i> | |
| 2 | 1 | <i>data integrity,</i> | |
| 2 | 2 | <i>data independence.</i> | [4] |
| 2 | 3 | A village sports club uses a database management system to operate a membership and fixture system. <i>Members</i> normally register for more than one <i>sport</i> . <i>Fixtures</i> against other villages are arranged in a wide variety of sports involving a large number of teams. | |

One table in this database could be:

SPORT[Sportid, Sport_name, Home_venue]

with Sportid being the primary key.

Give **two** other suitable tables you could expect to see in this database, identifying any primary or foreign keys. [8]

A commercial company uses a *data warehouse* to hold details about customers and their purchases.

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| 2 | 4 | Describe what a <i>data warehouse</i> is and explain the advantages it gives this company. [5] | |
| 2 | 5 | Explain what is meant by <i>data mining</i> and give an example of how the company might use it. [3] | |