



22085511

**INFORMATION TECHNOLOGY IN A GLOBAL SOCIETY  
HIGHER LEVEL AND STANDARD LEVEL  
PAPER 1**

Monday 19 May 2008 (afternoon)

Candidate session number

1 hour

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**INSTRUCTIONS TO CANDIDATES**

- Write your session number in the boxes above.
- Do not open this examination paper until instructed to do so.
- Answer all the questions in the spaces provided.



1. An author has broken his arm and can no longer use his computer to complete an article. The operating system of the computer provides many utilities that can make it possible for people with a wide range of disabilities to use their computers.

(a) Define the term *operating system*. [2 marks]

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(b) Describe **two** utilities provided by an operating system that would be helpful in enabling the author to use his computer effectively despite his injury. [4 marks]

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*(Question 1 continued)*

- (c) Explain how developments in software applications have made computers more accessible to people with disabilities.

*[4 marks]*

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2. A small mail order company is using a flat file database to keep track of customers and their orders. The use of this database has led to numerous errors due to data redundancy. The company is considering replacing the flat file database with a relational one but is concerned that it may not be immediately obvious how to use it.

(a) Define the term *data redundancy*. [2 marks]

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(b) Describe how a relational database can reduce the problem of data redundancy. [4 marks]

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*(Question 2 continued)*

- (c) The employees will not be familiar with using the new database. Explain how the company can assist employees to adapt to it.

*[4 marks]*

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3. The screenshot below shows part of an online web-based discussion forum for teachers. A teacher who wishes to participate in the discussions must first register, then choose a user name and password. It is then possible to post comments on the forum.

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- Business studies
- Design and technology
- Drama
- EMAG
- English
- Geography
- History
- ICT
- Mathematics

Subject	Started by	Posts	Last Post
<a href="#">DIDA or GCSE</a>	Rattikin	3	19 Sep 2007 11:45 Rattikin
<a href="#">Audacity in schools?</a>	gavcradd	1	19 Sep 2007 11:09 gavcradd
<a href="#">GCSE ICT</a>	hessm003	3	19 Sep 2007 11:08 blonde20
<a href="#">Yr 9 OCR Nationals</a>	ICT Wala	4	19 Sep 2007 11:05 gavcradd
<a href="#">Making Word Processing Fun....</a>	teach247	2	19 Sep 2007 10:58 djphillips1408

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- (a) (i) Identify the **type** of software that is being used to access and display this forum. [1 mark]

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- (ii) Identify the protocol being used to transmit this web-based forum. [1 mark]

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(This question continues on the following page)

*(Question 3 continued)*

- (b) Describe **two** ways in which a user of this web-based discussion forum could quickly locate a discussion topic of particular interest.

*[4 marks]*

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- (c) These types of web-based discussion forum are sometimes abused by users. Explain how abuse of this facility may be minimised by the site's owners.

*[4 marks]*

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4. Robots are used in industry for many purposes such as manufacturing car components. The robot in the illustration below is attaching a component to a car body.



[Source: [http://www.hostdub.com/albums/culverwood/Robot\\_applies\\_adhesive.jpg](http://www.hostdub.com/albums/culverwood/Robot_applies_adhesive.jpg)]

- (a) Define the term *robot*.

[2 marks]

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*(This question continues on the following page)*



*(Question 4 continued)*

- (b) Describe **two** output devices that are necessary in a robot used for the manufacture of cars.

*[4 marks]*

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- (c) Explain why robots are often used in place of humans in the manufacture of cars.

*[4 marks]*

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