**General Certificate of Education**
**Advanced Subsidiary/Advanced**

WJEC CBAC

342/01

# COMPUTING CP2
# THE COMPUTER, DATA AND APPLICATIONS

P.M. MONDAY, 14 January 2008

(1½ hours)

| For Examiner's use only | | |
|---|---|---|
| Question | Maximum Mark | Mark Awarded |
| 1. | 6 | |
| 2. | 4 | |
| 3. | 8 | |
| 4. | 4 | |
| 5. | 4 | |
| 6. | 6 | |
| 7. | 5 | |
| 8. | 6 | |
| 9. | 5 | |
| 10. | 3 | |
| 11. | 9 | |
| **Total** | **60** | |

**INSTRUCTIONS TO CANDIDATES**

Write your name, centre number and candidate number in the spaces at the top of this page.

Answer **all** questions.

Answers should be written in the spaces provided. Where the space is not sufficient for your answer, continue the answer at the back of the book, taking care to number the continuation correctly

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 60.

You are reminded of the necessity for good written communication and orderly presentation in your answers.

**1.** A golf club stores personal details of members. These include members' email addresses and subscription payment details.

*(a)* (i) The club sends emails to its members about forthcoming events and competitions. Give **two** reasons, apart from cost, why the club may prefer to use email for this communication instead of using conventional post. [2]

Reason 1 ...............................................................................................................................

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Reason 2 ...............................................................................................................................

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(ii) Describe **one** problem that may arise for the club from using email in this way. [1]

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*(b)* The club is registered with the Data Protection Commissioner and stores the data securely. Describe **three other** principles of the Data Protection Act with which the golf club will need to comply. [3]

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**2.** Personal computers can be purchased over the Internet. All computers are supplied with a hard disc. Other secondary storage devices are available from the supplier at extra cost. State **two** additional secondary storage devices that could be purchased, giving a typical use for **each** device.

[4]

Device 1 ...................................................................................................................................................

Typical use ...............................................................................................................................................

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Device 2 ...................................................................................................................................................

Typical use ...............................................................................................................................................

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**Turn over.**
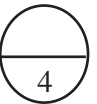
**3.** *(a)* Draw diagrams which show a *bus network* and a *star network*. [2]

Bus network

Star network

*(b)* Give **one** advantage of using a *star network* rather than a *bus network*. [1]

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*(c)* Describe **two** advantages of networked computers over standalone computers. [2]

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*(d)* Spooling is used for printing on a network. Give **one** reason why spooling is used and explain in **detail** how spooling works. [3]

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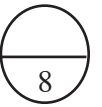
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**Turn over.**

**4.** Data held in a database by a mobile phone company include:

- *Mobile phone number, for example 07865 234564*
- *Credit limit, which will be between £10 and £100 inclusive*

Describe suitable validation checks that could be carried out as the data is entered, giving an example of invalid data that would be detected by the validation check described in **each** case.

A **different** validation check must be used in **each** case. [4]

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*Mobile phone number*

Description of validation check ................................................................................................................

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Example of invalid data that would be detected by **this** check

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*Credit limit*

Description of validation check ................................................................................................................

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Example of invalid data that would be detected by **this** check

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**5.** Handwriting recognition and voice recognition are common methods of input available on hand held computers and Personal Digital Assistants (PDA).

(i) Handwriting recognition can be used for input of data.
Give **one** advantage and **one** disadvantage of using handwriting recognition as a method for input rather than using a small keyboard. [2]

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(ii) Give **one** reason why a stylus (pointer) and touch screen is used for command input rather than using handwriting recognition. [1]

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(iii) A particular PDA uses voice recognition for inputting commands.
Why is voice recognition a suitable method for command input? [1]

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**Turn over.**

**6.** *(a)* (i) Name the section of memory between the central processing unit (CPU) and main memory that is used to store data temporarily. [1]

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(ii) Why is this type of memory used? [1]

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(iii) Give an appropriate use for this type of memory. [1]

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*(b)* What is the name given to the smallest unit of storage that is transferred between backing store and main store in one disc read or one disc write operation? [1]

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*(c)* Name the pathway that carries data between the CPU and main memory. [1]

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*(d)* What is the name given to the hardware and software needed for communication to take place between the processor and a peripheral device? [1]

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**7.** A car showroom has over a hundred cars for sale. Details of all cars for sale and of all cars sold are kept in a filing cabinet in the showroom office. When a car is sold details of the sale are recorded on paper and stored in the filing cabinet.

    (i) Sometimes the paper records become lost or illegible. Describe **two other** possible problems that the sales staff may experience with the current paper-based system. [2]

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    (ii) The manager decides to replace the paper-based system with a new computer system.

        (I) What would be the most suitable type of software to use? [1]

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        (II) Explain how this new computer system would overcome the problems that you described in part (i). [2]

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**Turn over.**

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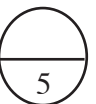
**8.** *(a)* Describe each of the following computing terms. [2]

Record ................................................................................................................................................

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Field ...................................................................................................................................................

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*(b)* Describe the difference in the organisation of *serial access* files and *sequential access* files.
[2]

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*(c)* A castle in Wales has hundreds of visitors every day. As visitors enter the castle they are asked for their name and address which are saved to a file on a computer.

This file is used once a year to print address labels to send promotional literature to every visitor.

State, with a reason, the most suitable file organisation for this application. [2]

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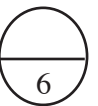
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**9.** *(a)* Explain what is meant by the term *batch processing*, and name an application where *batch processing* is appropriate. [2]

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*(b)* Name an application where *real time transaction processing* is necessary. Explain how *real time transaction processing* operates **in this case** and give **one** reason why real time transaction processing is necessary. [3]

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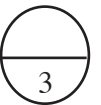
**Turn over.**

**10.** A university has a web site accessed via the Internet and a staff intranet.

(i)    What is the difference between the Internet and an intranet?                    [1]

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(ii)    Giving an example, explain what type of information the university may have on its staff
intranet but not on its Internet web site.                    [2]

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**11. In the following question, additional credit (up to 3 marks) will be gained if your answer demonstrates skill in written communication.**

A company employs thousands of service staff who visit customers' homes to repair and service gas appliances.  Currently they operate from regional centres where they park their vans each night, collect spare parts and are given a list of jobs to complete each day.

The company decides to close all regional centres and move administration staff to one national centre.  Under these new arrangements the service staff will take their vans home and will be issued with lap top computers.

Jobs will be emailed to each of the service staff every day and spare parts may be ordered from the company's web site and delivered directly to the service staff.

- Apart from the lap top computer, describe additional computer hardware that each of the service staff would require.

- Describe any *benefits and drawbacks* for the **company**.

- Discuss the effect closing the regional centres would have on the service staff and other staff employed at the regional centres.

[6 + 3]

**Turn over.**

L3

C6

T9

**For continuation only (any question). Please write question number clearly.**