OCR
RECOGNISING ACHIEVEMENT

ADVANCED SUBSIDIARY GCE   **2508**

COMPUTING

Computer Systems Development and Practical Applications

FRIDAY 16 MAY 2008   Morning
                                            Time: 1 hour 30 minutes

Candidates answer on the question paper
Additional materials: No additional materials are required

INSTRUCTIONS TO CANDIDATES

- Write your name in capital letters, your Centre Number and Candidate Number in the boxes above.
- Use blue or black ink. Pencil may be used for graphs and diagrams only.
- Read each question carefully and make sure that you know what you have to do before starting your answer.
- Answer **all** the questions.
- Do **not** write in the bar codes.
- Write your answer to each question in the space provided.
- Additional answer space is available on the lined pages at the back of this booklet. Answers on these pages **must** be clearly numbered.

INFORMATION FOR CANDIDATES

- The number of marks for each question is given in brackets [ ] at the end of each question or part question.
- The total number of marks for this paper is **90** of which 4 marks are allocated to the assessment of the quality of written communication.
- No marks will be awarded for using brand names of software packages or hardware.

FOR EXAMINER'S USE	
1	
2	
3	
4	
5	
6	
QWC	
TOTAL	

This document consists of **12** printed pages, **3** lined pages and **1** blank page.

1   A health centre employs a systems analyst to investigate its current information system.

Facts are collected using interviews and questionnaires.

(a) Give **two** advantages and **two** disadvantages of each of these methods of fact finding.

Interviews

Advantage 1 ....

....

Advantage 2 ....

....[2]

Disadvantage 1 ....

....

Disadvantage 2 ....

....[2]

Questionnaires

Advantage 1 ....

....

Advantage 2 ....

....[2]

Disadvantage 1 ....

....

Disadvantage 2 ....

....[2]

(b) (i) State **one** other method of fact finding.

....[1]

(ii) Give **one** advantage and **one** disadvantage of this method.

Advantage ....

....[1]

Disadvantage ....

....[1]

(c) Direct changeover, phased changeover and parallel running are three ways of introducing a new information system.

Explain the meaning of the terms

(i) direct changeover ....

....

....

....[2]

(ii) phased changeover ....

....

....

....[2]

(iii) parallel running ....

....

....

....[2]

(d) The information system has been in use for some time and requires software maintenance.

Describe each of the following types of software maintenance.

(i) Perfective maintenance ....

....

....

....[2]

(ii) Adaptive maintenance ....

....

....

....[2]

[Turn over

(e) On-line help is available to assist users.

Describe **four** features of on-line help.

1. ....

....

....

....

2. ....

....

....

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3. ....

....

....

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4. ....

....

....

....[8]

2   Describe how each of the following is used in data capture. For each, state a suitable use.

Optical Mark Recognition (OMR)

Description ....

....

....

....

Use ....

....[3]

Sensor

Description ....

....

....

....

Use ....

....[3]

Magnetic Stripe Card

Description ....

....

....

....

Use ....

....[3]

[Turn over

3 A mail order firm uses a computerised stock control system in its warehouse. As stock enters the warehouse, the product numbers are input into a computer system. The product numbers are verified and validated.

(a) Describe how data verification is carried out.

....

....

....

....[2]

(b) A product number consists of a four-digit integer in the range 1000 to 4999.

Describe **three** validation checks that could be carried out on the product number.

1. ....

....

....

....

2. ....

....

....

3. ....

....

....

....[6]

(c) (i) State the difference between a batch total and a hash total.

....

....

....

....[2]

(ii) Give **one** example of each from the stock control system in the warehouse.

Batch total ....

....[1]

Hash total ....

....[1]

(d) The stock control software used in the warehouse was custom written by a team of programmers.

State **two** advantages and **two** disadvantages of choosing custom-written software instead of off-the-shelf software.

Advantage 1 ....

....

Advantage 2 ....

....[2]

Disadvantage 1 ....

....

Disadvantage 2 ....

....[2]

(e) The manager of the warehouse is considering using voice recognition to input stock data.

State **three** advantages of using voice recognition.

Advantage 1 ....

....

Advantage 2 ....

....

Advantage 3 ....

....[3]

[Turn over

4 Name and describe a suitable method of processing for each of the following applications. In each case, give a reason for your choice.

(a) Employee wages for a large company.

Method of processing ....[1]

Description ....

....

....

....[2]

Reason ....

....[1]

(b) Booking a seat on a flight.

Method of processing ....[1]

Description ....

....

....

....[2]

Reason ....

....[1]

5 A library's computer system is to be upgraded. The existing user interface is command driven.

(a) State **two** drawbacks of using a command driven interface.

Drawback 1 ....

....

Drawback 2 ....

....[2]

The new interface is to be menu driven.

(b) State **three** features of a Graphical User Interface (GUI).

Feature 1 ....

....

Feature 2 ....

....

Feature 3 ....

....[3]

[Turn over

6 A Management Information System (MIS) and an expert system are used in a hospital.

(a) (i) Explain the purpose of a MIS.

....

....

....

....[2]

(ii) Describe **two** uses of a MIS in the hospital.

1 ....

....

....

....

2 ....

....

....

....[4]

(b) (i) Describe an expert system.

....

....

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....

....

....[3]

(ii) Describe **one** use of an expert system in the hospital.

....

....

....

....[2]

(c) Discuss how data protection legislation affects hospital staff and patients.

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....[5]

If you use these lined pages to complete the answer to any question, the question number **must** be clearly shown.

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