

**ADVANCED GCE
 COMPUTING**

2511

Integrated Information Systems

WEDNESDAY 23 JANUARY 2008

Morning

Time: 1 hour 30 minutes

Candidates answer on the question paper.

Additional materials: No additional materials are required



Candidate Forename

Candidate Surname

Centre Number

Candidate Number

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.
- Do **not** write outside the box bordering each page.
- 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 **13** printed pages, **2** lined pages and **1** blank page.

BLANK PAGE

PLEASE DO NOT WRITE ON THIS PAGE

Mr and Mrs Aziz are in the process of starting a new business which involves visiting houses to clean wheelie bins. They intend to distribute leaflets to all the houses in their area and to keep a record of all their customers and details of when the bins are cleaned. They also need to keep accounts and to make sure people pay for the service.

- 1 Give **four** types of application package that Mr and Mrs Aziz would find useful and state what each would be used for.

Type 1.....

Use

.....

Type 2.....

Use

.....

Type 3.....

Use

.....

Type 4.....

Use

..... [8]

- 2 Mr and Mrs Aziz have a list of customers and wish to create routes so that each house is visited once a month. Each route should be as short as possible and have a maximum of 50 bins. They wish to use the computer to produce the routes.

Mr and Mrs Aziz have been told that they will need special purpose software rather than a common generic application.

- (a) Describe the difference between special purpose software and common generic application software.

.....
.....
.....
.....[2]

- (b) One package which has been recommended uses simulation to produce a result.

- (i) Describe the inputs, processing and outputs that would be needed to produce a suitable set of routes.

Inputs
.....
.....
.....
.....
.....[3]

Processing
.....
.....
.....[2]

Outputs
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.....
.....[2]

(ii) People may cancel the cleaning for one month and others may join the cleaning rota.

Explain the limitations of using a simulation when this happens.

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.....[2]

3 The database management system to be used allows the user to choose indexed sequential or random access files to hold the data.

(a) Explain how data is accessed in

an indexed sequential file
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.....
..... [4]

a random access file
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.....
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.....
..... [4]

(b) The database will be used to produce the daily routes for the next week.

Explain why batch processing may be used.

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..... [3]

(c) Mr and Mrs Aziz intend to use a single PC. They will need to backup and archive their data.

Give the meaning of the terms backup and archive and state why each is needed.

Backup

.....

Reason

.....[2]

Archive

.....

Reason

.....[2]

(d) Mr and Mrs Aziz have been advised to use email and the World Wide Web.

Give **two** pieces of additional hardware and **one** piece of software they will need to access their emails.

Hardware 1

Hardware 2[2]

Software[1]

(e) State **three** utility routines that they would find useful to help keep their PC in good working order.

Utility 1

.....

Utility 2

.....

Utility 3

.....[3]

4 (a) (i) State what is meant by e-commerce.

.....
.....[1]

(ii) State **four** advantages to business of using e-commerce.

Advantage 1
.....
Advantage 2
.....
Advantage 3
.....
Advantage 4
.....[4]

(b) (i) Describe how a firewall can maintain the confidentiality of data.

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.....[2]

- (ii) Explain how encryption and authentication are used to ensure the privacy of data during data transfer.

Encryption
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.....[4]

Authentication
.....
.....
.....[2]

- (c) As the business expands, Mr and Mrs Aziz will need to take on more staff. These staff will need to access the data. To do this more computers will be needed.

Explain why these computers should be networked.
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.....[3]

5 (a) Many businesses have websites.

State **two** advantages to a business of having a website.

Advantage 1

.....

Advantage 2

.....[2]

(b) HTML can be used to create a website.

Read the following HTML.

```
<html>
<head>
<title> OCR GCE Computing
</title>
</head>
<body>
<h1> COMPUTING </h1>
<p> The first three units of the specification make up the AS examination. </p>
<img src= "A_computer.jpg" alt="Computer" width="160" height="210"
title="A Personal Computer"/>
<p> To go to OCR's website <a href=http://www.OCR.org.uk>OCR</a> for those who are
interested</p>
</body>
</html>
```

State what is displayed in the browser's title (window) bar.

.....[1]

State the main heading on the page

.....[1]

State the purpose of the tags <p> and </p>.

.....

.....[2]

State the filename of the picture that is on the page.

.....[1]

State what is printed if the picture does not load.

.....[1]

State the title of the picture.

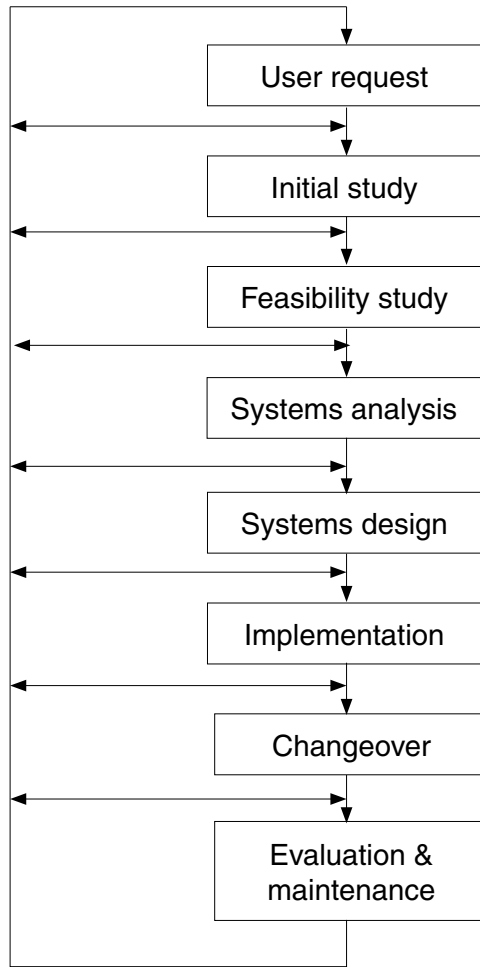
.....[1]

Show how the link to OCR's website is displayed.

.....[1]

Please turn over for the next question

- 6 Businesses use the systems life cycle to develop new software. One model is the waterfall model shown below.



- (a) The diagram shows that after each stage previous stages may need to be revisited.

Explain why this is necessary.

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[4]

(b) Businesses use the following methods of changeover.

Describe each and give **one** advantage and **one** disadvantage of each.

Direct changeover

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Advantage

.....

Disadvantage

.....[3]

Parallel changeover

.....

Advantage

.....

Disadvantage

.....[3]

Phased changeover

.....

Advantage

.....

Disadvantage

.....[3]

Please turn over for the last question

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

Lined area for writing answers, consisting of 24 horizontal dotted lines.

