

**ADVANCED SUBSIDIARY GCE UNIT
COMPUTING**

2508

Computer Systems Development and Practical Applications

MONDAY 15 JANUARY 2007

Afternoon

Time: 1 hour 30 minutes

Additional materials:
No additional materials are required.



Candidate
Name

Centre
Number

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Candidate
Number

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INSTRUCTIONS TO CANDIDATES

- Write your name, Centre number and Candidate number in the boxes above.
- Answer **all** the questions.
- Use blue or black ink. Pencil may be used for graphs and diagrams only.
- Read each question carefully and make sure you know what you have to do before starting your answer.
- Do **not** write in the bar code.
- Do **not** write outside the box bordering each page.
- If you run out of space for an answer, continue on the spare page at the back of the booklet.
- **WRITE YOUR ANSWER TO EACH QUESTION IN THE SPACE PROVIDED. ANSWERS WRITTEN ELSEWHERE WILL NOT BE MARKED.**

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.
- You will be awarded marks for the quality of written communication where an answer requires a piece of extended writing.
- No marks will be awarded for using brand names of software packages or hardware.

For Examiner's Use		
Question no.	Max. mark	Mark
1	23	
2	6	
3	8	
4	14	
5	13	
6	10	
7	12	
WC	4	
Total	90	

This document consists of **11** printed pages and **1** lined page.

1 A company is considering improving its information system. The systems life cycle is used to plan this improvement. A systems analyst is employed to carry out a feasibility study.

(a) Describe **four** factors that should be considered in the **feasibility study**.

Factor 1
.....
.....
.....[2]

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

Factor 3
.....
.....
.....[2]

Factor 4
.....
.....
.....[2]

(b) (i) Apart from the feasibility stage, state **five** other stages of the systems life cycle.

1.
2.
3.
4.
5.[5]

(ii) Describe **three** of these stages.

Stage

Description

.....

.....

.....[2]

Stage

Description

.....

.....

.....[2]

Stage

Description

.....

.....

.....[2]

(c) State **four** different sections usually found in user documentation.

1.

2.

3.

4.[4]

- 2 Stock items, stored in a computerised stock control system, are identified by an item code. The format of the item code is LL999, where:
L – is a capital letter (A, B, ..Z)
9 – is a digit (0, 1, ..9)

Describe **three** different methods that could be used to validate the item code.

Method 1
.....
.....
.....[2]

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

Method 3
.....
.....
.....[2]

3 Describe the method of processing for each of the following applications.

In each case give a reason why the specified method of processing is used.

(a) Booking a concert ticket using real-time (rapid response) processing.

Description

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.....

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.....

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Reason

.....[4]

(b) Producing monthly customer telephone bills using batch processing.

Description

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Reason

.....[4]

4 An architect uses a computer aided design (CAD) software package to design a shopping centre.

(a) State **three** different features of a CAD software package.

Give an example of how each would be used in designing the shopping centre.

Feature 1
Example
.....
.....[2]

Feature 2
Example
.....
.....[2]

Feature 3
Example
.....
.....[2]

(b) An image can be captured using a scanner or a digital camera.

(i) Describe how a scanner captures an image.

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.....[4]

(ii) Describe how a digital camera captures an image.

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.....[4]

5 A college currently uses a range of software packages. These packages have similar user interfaces.

(a) Explain what is meant by the term user interface.

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

(b) Some of the packages use a GUI (Graphical User Interface).

State **five** features of a GUI.

Feature 1
Feature 2
Feature 3
Feature 4
Feature 5[5]

(c) Explain the advantages to the students of having similar user interfaces in all software packages.

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.....[4]

(d) State **two** problems of using a speech recognition interface in the college.

Problem 1
.....
Problem 2
.....[2]

6 The staff in a local hospital use a management information system (MIS) and an expert system.

(a) Explain what is meant by the term management information system.

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

(b) An expert system contains a knowledge base and an inference engine.

Explain what is meant by

(i) a knowledge base
.....
.....[2]

(ii) an inference engine
.....
.....[2]

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

Use 1
.....
.....

Use 2
.....
.....[4]

7 A bank uses computers to store financial details of its customers.

(a) State **four** measures contained in data protection legislation that protect personal customer data.

Measure 1

.....

Measure 2

.....

Measure 3

.....

Measure 4

.....[4]

(b) The administration staff at the bank are concerned about data privacy.

Describe methods that can be used to reduce these concerns.

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.....[4]

- (c) The management of the bank are concerned about the accuracy of data contained on the computer system.

Explain how verification can be used to reduce errors.

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.....[4]

