

## **ADVANCED SUBSIDIARY GCE**

2508

## **COMPUTING**

Computer Systems Development and Practical Applications

**MONDAY 14 JANUARY 2008** 

Afternoon

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 page at the back of this booklet. Answers on this
  page must be clearly numbered.

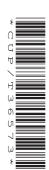
## **INFORMATION FOR CANDIDATES**

- 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 EXAM	INER'S USE
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TOTAL	

This document	consists	of 11	printed	pages and	1 lined	page

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A leisure centre manager proposes to replace the current computerised information system.

(a)		te <b>three</b> reasons why the leisure centre may need to introduce a new computerised tem.
	Rea	ason 1
	Rea	ason 2
	Rea	ason 3
		[3]
The	e svs	tems life cycle is used to produce the new system.
	(i)	
()	(-)	1
		2
		3
		4
		5
		6[6]
	(ii)	Describe <b>four</b> of these stages.
		Name of stage
		Description
		[2]
		Name of stage
		Description
		[2]

	Name of stage	
	Description	
		•••••
		[2]
	Name of stage	
	Description	
		[2]
(c)	Describe how the leisure centre manager is involved in the systems life cycle.	
		•••••
		[3]

The leisure centre manager plans to introduce an expert system into the fitness suite. The expert system will contain a rule base and an inference engine.

	(d)	Ехр	lain what is meant by the terms
		(i)	rule base
			[2]
		(ii)	inference engine
			[2]
2		te ai	nd describe the <b>most suitable</b> method of changeover for each of the following ons.
	(a)		oducing a new on-line seat booking system for a theatre company, allowing seats to be ked by a number of ticket agents.
		Met	hod of changeover
		Des	scription
			[3]
	(b)		oducing a new electronic point of sale (EPOS) system for a chain of restaurants over a od of time.
		Met	hod of changeover
		Des	cription
			[3]

3	(a)		te <b>two</b> advantages and <b>two</b> disadvantages of choosing off-the-shelf software instead of tom-written software.
		Adv	antage 1
		Adv	antage 2
			[2]
		Disa	advantage 1
		Disa	advantage 2
			[2]
	(b)		each of the following activities, state a suitable type of software package. In each case, e <b>one</b> feature of the package which makes it a suitable choice.
		(i)	To maintain stock records.
			Type of software
			Feature
			[2]
		(ii)	To produce plans for new buildings.
			Type of software
			Feature
			[2]

4 A local authority has a number of librari	ries.
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(a)		en a book is borrowed, a barcode is scanned. A typical barcode is 0351636277.  last digit is a check digit.	
	(i)	Explain how the check digit was calculated.	
			••••
	(ii)	Describe <b>two</b> other validation checks that could be used on the barcode.	
		Validation Check 1	••••
		Validation Check 2	
		validation oncox 2	
			<b>Γ</b> Δ

(b)	Describe how the local authority could use a management information system (MIS) at each of the following levels.
	Operational level
	Tactical level
	Strategic level
	[6]
	0

The local authority is concerned about the health risks that may be caused to library employees by the use of computer systems.

(c)	State <b>three</b> different health risks that give cause for concern, and for each state a method of reducing the risk.
	Health risk 1
	Method
	Health risk 2
	Method
	Health risk 3
	Method
	[6]

(i)	a scanner
	[4]
(ii)	a video capture card
	[4]
(iii)	a digital camcorder.
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A software developer has been asked to design software for school administration.

(a)	Describe <b>three</b> factors that should be considered when designing a suitable human computer interface.
	Factor 1
	Factor 2
	Factor 3
	[6]

The new package is to have a Graphical User Interface (GUI).

(b)	Describe the use of <b>three</b> features of a GUI interface.
	Feature 1
	Feature 2
	Feature 3
	[6]
(c)	Describe how the Data Protection Act applies to student data.
	[4

If you use this lined page to complete the answer to any question, the question number <b>must</b> be clearly shown.

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