



Rewarding Learning

**ADVANCED**  
General Certificate of Education  
January 2010

Centre Number

71	
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Candidate Number

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# Information and Communication Technology

Assessment Unit A2 1

*assessing*

Module 3: Information Systems

[AW211]

WEDNESDAY 27 JANUARY, AFTERNOON



AW211

## TIME

2 hours.

## INSTRUCTIONS TO CANDIDATES

Write your Centre Number and Candidate Number in the spaces provided at the top of this page.

Write your answers in the spaces provided in this question paper.

Answer **all seven** questions.

## INFORMATION FOR CANDIDATES

The total mark for this paper is 120 including a maximum of 5 for quality of written communication.

Figures in brackets printed down the right-hand side of pages indicate the marks awarded to each question or part question.

For Examiner's use only	
Question Number	Marks
1	
2	
3	
4	
5	
6	
7	
QWC	

<b>Total Marks</b>	
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(c) The company also uses an expert system.

Describe **three** main components of an expert system.

1. \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

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\_\_\_\_\_

2. \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

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3. \_\_\_\_\_

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\_\_\_\_\_

\_\_\_\_\_ [6]

Examiner Only	
Marks	Remark

2 Businesses must ensure that all their data is secure.

(a) Describe **two** main threats to data security when connected to the Internet.

1. \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

2. \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_ [4]

(b) Explain how access rights can be used to improve data security.

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\_\_\_\_\_ [4]

Examiner Only	
Marks	Remark

(c) Describe a suitable backup and recovery strategy for a real-time application.

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[6]

(d) Describe the main features of  
A client server network

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A peer-to-peer network

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[4]

Examiner Only	
Marks	Remark

[Turn over

3 Modern communications rely on ICT.

(a) Describe how communication technology is used in

A mobile phone network

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A wireless LAN

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[8]

Examiner Only	
Marks	Remark

(b) Describe each of the following methods of error detection.

Parity bits

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Check sums

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Echo checking

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[9]

Examiner Only	
Marks	Remark





4 An information system can be developed in a number of different ways.

(a) Describe the main features of

The waterfall model

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Rapid application development (RAD)

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[8]

Examiner Only	
Marks	Remark

(b) Describe each of the following:

Alpha testing

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Beta testing

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[8]

Examiner Only	
Marks	Remark

5 GUI and natural language are two types of user interface.

(a) Identify the main features of a typical GUI.

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[4]

(b) Describe the main features of a natural language interface.

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[4]

(c) Describe **one** main drawback of a natural language interface.

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[2]

Examiner Only	
Marks	Remark

[Turn over

A number of factors should be taken into account when designing a user interface.

**Examiner Only**

**Marks Remark**

(d) Describe **two** psychological factors which can affect human interaction with a computer.

1. \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

2. \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_ [6]

(e) Describe **two** ergonomic factors which can affect human interaction with a computer.

1. \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

2. \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_ [4]

6 Many transactions which required a customer to visit a bank can now be performed at an ATM.

(a) Evaluate **two** other ways in which ICT can be used to avoid the need for a customer to visit a bank.

1. \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

2. \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_ [6]

(b) Describe **two** ways in which ICT can be used to train bank employees.

1. \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

2. \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_ [4]

Examiner Only	
Marks	Remark

7 The use of ICT involves a number of legal and professional issues.

(a) Describe the main implications of Data Protection legislation for

An organisation

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Members of the public

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[6]

Examiner Only	
Marks	Remark

(b) An ICT consultant considers joining the British Computer Society (BCS).

Write a short report focusing on

- The role of the BCS
- The professional advantages of joining the BCS

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[8]

Examiner Only	
Marks	Remark
<b>Quality of Written Communication</b>	

