



Centre Number

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| 71 | |
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Candidate Number

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ADVANCED
General Certificate of Education
2013

**Information and
Communication Technology**

Assessment Unit A2 1

assessing

Module 3: Information Systems

[AW211]

MONDAY 3 JUNE, AFTERNOON

MV18

TIME

2 hours, plus your additional time allowance.

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.

Complete in blue or black ink only.

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 at the end of each question indicate the marks awarded to each question or part question.

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1 Most organisations have replaced standalone computers with a network.

(a) Identify **three** advantages of a network over standalone computers. [3]

1. _____

2. _____

3. _____

(b) Explain what is meant by a peer-to-peer network. [3]

(c) Communication standards are required when data is transmitted over a network.

(i) Explain the need for communication standards. [2]

(ii) Describe the Open Systems Interconnection (OSI) model. [4]

(d) Explain how auditing software is used on a computer network. [4]

(e) Why is a network more vulnerable than a suite of standalone computers to viruses? [3]

2 An organisation develops a new information system using RAD.

(a) Describe how the system could be developed using RAD. [4]

(b) Name and describe one other method which could be used to develop this system. [4]

Name _____

Description _____

(c) CASE tools can be used during system development.
Name and describe **three** CASE tools used during
system development. [9]

Name _____

Description _____

Name _____

Description _____

Name _____

Description _____

3 Human computer interaction is an important part of system design.

(a) Describe **three** main features of a graphical user interface (GUI). [6]

1. _____

2. _____

3. _____

(b) Describe how psychological factors can influence human computer interaction. [4]

4 Training and user support are provided for an information system.

(a) Describe **two** advantages of an electronic user guide over a printed manual. [4]

1. _____

2. _____

An interactive DVD can be used to provide training.

(b) Describe how data is written onto a DVD. [4]

(c) Explain how an interactive DVD can be used to train users of an information system. [4]

5 (a) Organisations using ICT must comply with all relevant legislation.

(i) Describe the main features of the Copyright, Designs and Patents Act. [4]

(ii) Explain the main implications of Data Protection legislation for an organisation. [4]

(b) Many organisations require their employees to sign an acceptable use policy regarding ICT.

Describe the purpose of an acceptable use policy. [4]

(c) Describe **three** reasons why an ICT professional should become a member of the Association for Computing Machinery (ACM). [6]

1. _____

2. _____

3. _____

6 A retailer uses a database system for customer orders and sales.

(a) Describe **two** drawbacks with data which is not normalised. [4]

1. _____

2. _____

An invoice is produced for each sale.

INVOICE

Invoice ID **12345**

Invoice date **02/05/13**

Customer ID **C3215**

Name **Green**

Address **12a Old Row**
Belfast

| Item ID | Description | Unit price | Quantity |
|----------------|---------------------|-------------------|-----------------|
| M8765 | Motherboard | £36.99 | 1 |
| H3921 | External HD | £52.99 | 2 |
| P6124 | Power supply | £57.99 | 1 |

Invoice total: £200.96

(b) Produce an Entity Relationship Model, which does not include a many-to-many relationship, for this invoice. [7]

(c) Normalise the data contained in the invoice opposite to 3NF showing all your work. [6]

INVOICE

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Invoice total: £200.96

(d) The retailer uses an expert system for planning deliveries to customers.

Name and describe **three** main components of an expert system. [9]

Name _____

Description _____

Name _____

Description _____

Name _____

Description _____

THIS IS THE END OF THE QUESTION PAPER

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

| | |
|--------------------|--|
| Total Marks | |
|--------------------|--|

Examiner Number

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