



Rewarding Learning

ADVANCED  
General Certificate of Education  
2011

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]

FRIDAY 27 MAY, MORNING



### 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	

Total Marks	
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6545.06R

1 An organisation with offices throughout the country introduces a new information system.

(a) A video conference is arranged to train users of the new system.

(i) Identify **four** hardware resources specifically required for video conferencing.

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

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

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

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

(ii) Describe **three** benefits of using video conferencing to train the users.

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

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

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

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

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

\_\_\_\_\_

\_\_\_\_\_

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

Examiner Only	
Marks	Remark

(b) A user guide is available for the new system.

Name and describe **two** other methods of user support.

Name \_\_\_\_\_

Description \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Name \_\_\_\_\_

Description \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

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

Examiner Only	
Marks	Remark

2 (a) Eyestrain is one health problem which computer users may experience.

(i) Identify **four** precautions that can be taken to minimise eyestrain.

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_ [4]

(ii) Describe **two** other health problems which may affect computer users and describe one way in which each can be minimised.

Problem \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Remedy \_\_\_\_\_  
\_\_\_\_\_

Problem \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

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

Examiner Only	
Marks	Remark



3 (a) A small business requires a new payroll system.

Describe **three** methods of obtaining software. Comment on the suitability of each **in this case**.

Method \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Suitability \_\_\_\_\_

\_\_\_\_\_

Method \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Suitability \_\_\_\_\_

\_\_\_\_\_

Method \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Suitability \_\_\_\_\_

\_\_\_\_\_ [9]

Examiner Only	
Marks	Remark

(b) A CASE tool can be used to assist project management.

(i) Describe **two** benefits of using a CASE tool for project management.

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

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

(ii) Name and describe **two** other types of CASE tool.

Name \_\_\_\_\_  
 Description \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Name \_\_\_\_\_  
 Description \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_ [6]

Examiner Only	
Marks	Remark

4 The design of the user interface is an important part of system development.

(a) Describe the main features of

A natural language interface

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A command line interface

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[8]

Examiner Only	
Marks	Remark



(b) Explain why an experienced user might prefer a command line interface to a natural language interface.

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[3]

(c) Describe **two** reasons why a touch screen interface is suitable for use in a tourist information centre.

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

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

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[4]

Examiner Only	
Marks	Remark

5 (a) Hotel reservations can be made on-line. Describe **two** benefits of using real-time processing **in this case**.

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

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

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

\_\_\_\_\_

\_\_\_\_\_

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

(b) Apart from re-training, describe **two** ways in which the introduction of ICT has affected employees on a car assembly line.

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

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

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

\_\_\_\_\_

\_\_\_\_\_

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

Examiner Only	
Marks	Remark

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**(Questions continue overleaf)**

6 An airline flies from Belfast to a number of cities.

Details about flights and passengers are held in a flat file. An extract from this file is shown in the table below.

FlightID	Airport Code	Airport	Date	Departure	Arrival	Passenger ID	Name	Contact
XYZ123	DUB	Dublin	01/11	09.15	09.45	C3458	Smith	909090
XYZ123	DUB	Dublin	01/11	09.25	09.45	C8764	Jones	919191
XYZ123	DUB	Dublin	01/11	09.15	09.45	C1382	Green	909190

(a) By referring to the table, explain what is meant by

Data inconsistency \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Data redundancy \_\_\_\_\_

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

The flat file is converted to a relational database using normalisation.

(b) Describe each stage in normalising data to 3NF.

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_ [3]

Examiner Only	
Marks	Remark

(c) Normalise the data in the table to 3NF showing all your work.

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[9]

Examiner Only	
Marks	Remark

(d) Describe how a Management Information System (MIS) could assist the airline in decision making at each of the following levels.

Operational \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Tactical \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Strategic \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

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

Examiner Only	
Marks	Remark

7 (a) It is important that data in an information system is kept secure.

(i) Name and describe one way in which data stored on a network can be kept secure from unauthorised access.

Name \_\_\_\_\_

Description \_\_\_\_\_

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

(ii) Name and describe one way in which data transmitted on a network can be kept secure from unauthorised access.

Name \_\_\_\_\_

Description \_\_\_\_\_

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

Examiner Only	
Marks	Remark





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**THIS IS THE END OF THE QUESTION PAPER**

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