Rewarding Learning

ADVANCED SUBSIDIARY (AS) General Certificate of Education 2012

## Information and Communication Technology

## Assessment Unit AS 1

assessing
Module 1: Components of ICT
[AW111]

## TUESDAY 29 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 six questions.

## INFORMATION FOR CANDIDATES

The total mark for this paper is 120 marks 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.
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| For Examiner's <br> use only |  |
| :---: | :---: |
| Question <br> Number | Marks |
| 1 |  |
| 2 |  |
| 3 |  |
| 4 |  |
| 5 |  |
| 6 |  |
| QWC |  |
| Total |  |
| Marks |  |

1 Banks make extensive use of ICT.
(a) Identify two examples of input and two examples of output at a typical ATM.

Input

1. $\qquad$
2. $\qquad$
Output
3. $\qquad$
4. $\qquad$
(b) Describe the main features of each of the following technologies. MICR
$\qquad$
$\qquad$
$\qquad$
$\qquad$
$\qquad$
$\qquad$
Smart card
$\qquad$
$\qquad$
$\qquad$
$\qquad$
$\qquad$
$\qquad$
(c) Banks provide on-line facilities for their customers.

Identify two benefits to the customer of using on-line banking.

1. $\qquad$
$\qquad$
2. $\qquad$
$\qquad$
(d) Batch processing is used to process cheques.
(i) Describe the main features of batch processing.
$\qquad$
$\qquad$
$\qquad$
$\qquad$
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$\qquad$
$\qquad$
$\qquad$
(ii) Describe the main features of real-time processing.
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$\qquad$
$\qquad$
$\qquad$
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$\qquad$
$\qquad$

2 Students have access to a university's intranet.
(a) Describe the main features of each of the following.

WAN
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$\qquad$
$\qquad$
$\qquad$
LAN
$\qquad$
$\qquad$
$\qquad$
$\qquad$
(b) Describe the main difference between an intranet and the Internet.
$\qquad$
$\qquad$
$\qquad$
$\qquad$
(c) Identify two uses of the intranet in this case.

1. $\qquad$
$\qquad$
2. $\qquad$
$\qquad$

The university is taking part in a project with other universities on the use of renewable energy.
(d) Apart from email, explain how students taking part in the project could use the Internet to

Search for information
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$\qquad$
$\qquad$
$\qquad$
$\qquad$
$\qquad$
$\qquad$
$\qquad$
Disseminate information
$\qquad$
$\qquad$
$\qquad$
$\qquad$
$\qquad$
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$\qquad$
(e) The organisers of the project wish to arrange a videoconference.

Identify four hardware components and two software components required specifically for videoconferencing.

Hardware

1. $\qquad$
2. $\qquad$
3. $\qquad$
4. $\qquad$

## Software

1. $\qquad$
2. $\qquad$

3 Computer networks must be protected from viruses.
(a) Describe the main features of

A worm
$\qquad$
$\qquad$
$\qquad$
$\qquad$
$\qquad$
$\qquad$
$\qquad$
$\qquad$
A logic bomb
$\qquad$
$\qquad$
$\qquad$
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$\qquad$
$\qquad$
$\qquad$
$\qquad$

A macro virus
$\qquad$
$\qquad$
$\qquad$
$\qquad$
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$\qquad$
(b) Describe three methods used to keep information secure on a network.

1. $\qquad$
$\qquad$
$\qquad$
$\qquad$
2. $\qquad$
$\qquad$
$\qquad$
$\qquad$
3. $\qquad$
$\qquad$
$\qquad$
$\qquad$

4 When purchasing a product from a website, a customer completes the following on-screen form.

(a) State the most suitable field for each of these validation checks.

Character/type $\qquad$
Range $\qquad$
Format $\qquad$
Check Digit

The customer receives an email confirming the order.
The customer then receives a letter from an insurance company offering to provide insurance for the product.
(b) In this case, explain what is meant by

A direct data source
$\qquad$
$\qquad$
$\qquad$
$\qquad$
An indirect data source
$\qquad$
$\qquad$
$\qquad$
$\qquad$
(c) Explain the implications of Data Protection legislation when data is
$\qquad$
$\qquad$
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$\qquad$
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$\qquad$
$\qquad$
$\qquad$


#### Abstract

used in this way.


5 When a business requires a new information system, it is important that the user requirements are identified.
(a) Name and describe two methods of fact finding.

Name $\qquad$
Description $\qquad$
$\qquad$
$\qquad$
$\qquad$
Name $\qquad$
Description $\qquad$
$\qquad$
$\qquad$
$\qquad$
(b) The feasibility of the new system must be investigated.
(i) Explain what is meant by technical feasibility.
$\qquad$
$\qquad$
$\qquad$
$\qquad$
(ii) Explain what is meant by social feasibility.
$\qquad$
$\qquad$
$\qquad$
$\qquad$
(c) Data Flow Diagrams (DFDs) are used during the design of a new system.

Identify three of the main components of a DFD.

1. $\qquad$
2. $\qquad$
3. $\qquad$
(d) The changeover method to be used for the new system must be decided.

Name and describe two changeover methods.
Name $\qquad$
Description $\qquad$
$\qquad$
$\qquad$
$\qquad$
Name $\qquad$
Description $\qquad$
$\qquad$
$\qquad$
$\qquad$
(e) Describe the role of the programmer during the development of a new information system.
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6 The manager of a hospital uses a database to store doctors' details.
(a) Describe how the manager could create a report showing the contact details of all doctors who specialise in surgery.
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(b) Virtual reality is used by the hospital to train doctors in new surgical techniques.
(i) Explain how virtual reality can be used in this case.
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$\qquad$
$\qquad$
$\qquad$
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$\qquad$
$\qquad$
$\qquad$
(ii) Describe two benefits of using virtual reality in this case. 1. $\qquad$
$\qquad$
$\qquad$
$\qquad$
2. $\qquad$
$\qquad$
$\qquad$
$\qquad$
(c) Employers must take steps to minimise risks for workers who use ICT.

Describe the main features of Health and Safety legislation relating to the use of ICT.
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## THIS IS THE END OF THE QUESTION PAPER

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