cea
Rewarding Learning

ADVANCED SUBSIDIARY (AS)
General Certificate of Education
2014

Information and Communication Technology

Assessment Unit AS 1 assessing
Module 1: Components of ICT

[AP111]   *AP111*

MONDAY 9 JUNE, AFTERNOON

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.
Complete in blue or black ink only. **Do not write in pencil or with a gel pen.**
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.

1 Many supermarkets use loyalty cards to reward regular customers with special offers.

Customers can apply for a loyalty card by completing an application form.

Details from these forms are keyed into a database.

(a) By referring to the **application form** discussed above, explain what is meant by

A direct data source

_____

_____

_____

_____

An indirect data source

_____

_____

_____

_____ [4]

(b) Describe one benefit and one drawback of using a direct data source.

Benefit _____

_____

_____

_____

Drawback _____

_____

_____

_____ [4]

(c) Data verification is used when data is entered into the database.

Identify **two** methods of data verification.

1. _____

2. _____ [2]

(d) Three fields on the application form are shown below.

Customer number	12345
Town	Sometown
Post code	BB2 8ZZ

Identify and justify the most suitable field for each of the following validation checks.

Type check

Field _____

Justification _____

_____

Check digit

Field _____

Justification _____

_____

Format check

Field _____

Justification _____

_____ [6]

[Turn over

8756

20AP11103

2 Students have been asked to research the history of their school as part of a GCSE project.

(a) The students use the Internet to obtain information for the project.

Describe the main features of a typical Internet browser.

_____

_____

_____

_____

_____

_____

_____ [4]

The students obtain a hard copy of a newspaper article about the school.

(b) Explain how the text of the article could be input to the computer using OCR software.

_____

_____

_____

_____

_____

_____

_____ [4]

(c) The newspaper contains an old photograph of the school. The photograph has been converted to a digital format.

(i) Explain how computer software could be used to enhance the photograph.

_____

_____

_____

_____

_____

_____

_____ [4]

[Turn over

8756

(ii) Describe the main features of the following file formats for storing images.

JPEG _____

_____

_____

_____

_____

_____

Bitmap _____

_____

_____

_____

_____

_____ [6]

Total Question 2

3 The internal memory of a computer includes RAM and cache memory.

(a) Explain the purpose of each of the following.

RAM _____

_____

_____

_____

_____

Cache memory _____

_____

_____

_____

_____

_____ [6]

[Turn over

8756

20AP11107

(b) A computer contains a hard disk.

Explain how data is written to and read from a hard disk.

_____

_____

_____

_____

_____

_____

_____

_____

_____ [5]

(c) A computer requires an operating system and application software.

(i) Describe the main features of a multi-tasking operating system.

_____

_____

_____

_____

_____

_____

_____

_____ [4]

(ii) Explain what is meant by application software.

_____

_____

_____

_____

_____

_____ [3]

(iii) Describe **two** drawbacks of using open source software.

1. _____

_____

_____

_____

2. _____

_____

_____

_____ [4]

Total Question 3

[Turn over

8756

4 A company uses a local area network (LAN).

(a) Describe the main features of a star network.

_____

_____

_____

_____

_____

_____

_____

_____ [4]

(b) Describe the impact of cable failure on

A star network _____

_____

_____

_____

A bus network _____

_____

_____

_____ [4]

20AP11110

(c) Describe the purpose of each of the following network resources.

An IP address _____

_____

_____

A router _____

_____

_____

_____

Proxy server _____

_____

_____

_____ [6]

(d) The company uses an intranet.

Explain what is meant by an intranet.

_____

_____

_____

_____

_____

_____ [3]

[Turn over

5 An organisation requires new software.

(a) Describe **two** benefits of custom built software.

1. _____

_____

_____

2. _____

_____

_____

_____ [4]

20AP11112

(b) The new software is developed in stages by a number of IT professionals.

    (i) Explain what happens during each of the following stages:

    User requirements stage

    _____

    _____

    _____

    _____

    _____

    Implementation stage

    _____

    _____

    _____

    _____

    _____

    _____ [6]

[Turn over

8756

(ii) Describe the main responsibilities of each of the following during software development.

The project manager

_____

_____

_____

_____

_____

The end user

_____

_____

_____

_____

_____ [6]

20AP11114

(c) Technical documentation is produced for the new software.

(i) Identify **three** of the main components of technical documentation.

1. _____

_____

2. _____

_____

3. _____

_____ [3]

(ii) Name and describe another type of documentation which will be produced for the new software.

Name

_____

Description

_____

_____

_____

_____

_____

_____ [5]

[Turn over

20AP11115

6 Security is an important consideration for companies which sell their products over the Internet.

   (a) Explain how each of the following can increase security over the Internet.

     https

_____

_____

_____

_____

_____

_____

     Paypal

_____

_____

_____

_____

_____

_____

_____ [8]

20AP11116

(b) Explain how each of the following computer viruses can affect a computer system.

A logic bomb

_____

_____

_____

_____

_____

_____

A macro virus

_____

_____

_____

_____

_____

_____ [6]

20AP11117

(c) Describe the main features of a typical disaster recovery plan.

_____

_____

_____

_____

_____

_____

_____ [4]

THIS IS THE END OF THE QUESTION PAPER

20AP11118

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