Rewarding Learning

ADVANCED SUBSIDIARY (AS)
General Certificate of Education
2015

Information and Communication Technology

Assessment Unit AS 1
assessing
Module 1: Components of ICT

ML

[AP111]
TUESDAY 23 JUNE, MORNING

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.
You must answer the questions in the spaces provided.
Do not write outside the boxed area on each page or on blank pages.
Complete in blue or black ink only. **Do not write with a gel pen.**
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.

20AP11101

1 The diagram below represents a bar code found on a book.

ISBN 0-123456-78-9

(a) Explain how data is read by a barcode reader.

_____

_____

_____

_____

_____

_____ [3]

(b) By referring to this diagram, explain what is meant by:

Data _____

_____

_____

_____

Information _____

_____

_____

_____ [4]

(c) The bar code includes a modulus 11 check digit.

Without performing any calculations, explain how a check digit can detect errors.

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____ [6]

2 A laptop computer has a keyboard and a touch sensitive pad.

(a) Identify and justify one use where the touch sensitive pad would be more suitable than the keyboard.

Use _____

Justification _____

_____ [2]

(b) The computer has a touch screen.

Describe the main features of touch screen technology.

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____ [5]

(c) Identify and justify a storage device that would be suitable for backing up data on a laptop computer.

Device _____

Justification _____

_____ [2]

3 A business decides to introduce a new payroll system.

(a) (i) Describe **two advantages** of custom-built software compared to off-the-shelf software.

1. _____

_____

_____

2. _____

_____

_____

_____ [4]

(ii) Describe **two disadvantages** of custom-built software over off-the-shelf software.

1. _____

_____

_____

2. _____

_____

_____ [4]

[Turn over

The business chooses an off-the-shelf package.

(b) Explain why an off-the-shelf package might be the better choice in the case of payroll software.

_____

_____

_____

_____ [2]

(c) The software has been tested.

Describe each of the following types of testing.

Application testing _____

_____

_____

_____

_____

_____

Acceptance testing _____

_____

_____

_____

_____

_____ [6]

(d) User documentation is provided for the payroll package.

Describe **three** of the contents of user documentation.

1. _____

_____

_____

_____

2. _____

_____

_____

_____

3. _____

_____

_____

_____ **[6]**

20AP11107

4 A computer uses a stock control system.

(a) Describe **three** ways that this computer could use RAM.

1. _____

_____

_____

_____

2. _____

_____

_____

_____

3. _____

_____

_____

_____ [6]

(b) Write down and justify one way that ROM is used.

Use _____

_____

Justification _____

_____ [2]

When keying in stock details, an employee enters a quantity as **915** instead of **195**.

(c) Name and describe the type of error that has occurred.

Error _____

Description _____

_____

_____ [2]

(d) Name and describe **two** ways that this error might be detected by data verification.

1. Name _____

Description _____

_____

_____

_____

_____

2. Name _____

Description _____

_____

_____

_____

_____ [6]

(e) Describe one way that this error might be detected by data validation.

_____

_____

_____

_____ [2]

5 Computer networks are essential for modern communication.

(a) Explain how data travels from one computer to another on each of the following networks.

Bus _____

_____

_____

_____

_____

_____

Ring _____

_____

_____

_____

_____

_____ [6]

(b) Describe the main features of a bus/star composite network.

_____

_____

_____

_____

_____

_____

_____

_____ [4]

(c) Explain how each of the following is used in network communication.

An IP address _____

_____

_____

_____

_____

A gateway _____

_____

_____

_____

_____

Proxy server _____

_____

_____

_____

_____ [9]

[Turn over

6 Pupils at a school complete a multiple choice test. The completed tests are entered into a database using OMR technology.

(a) Describe the main features of OMR.

_____

_____

_____

_____

_____

_____

_____ [4]

(b) Describe **two** reasons why OMR is a suitable method of data entry **in this case**.

1. _____

_____

_____

2. _____

_____

_____ [4]

(c) The database of test results must be kept secure.

Name and describe **two** methods that can be used to keep data secure.

Name _____

Description _____

_____

_____

_____

_____

Name _____

Description _____

_____

_____

_____

_____ [8]

20AP11115

7 A business sells its products using a website.

(a) HTML is used to create the web site.

Describe the main features of HTML.

_____

_____

_____

_____

_____

_____

_____

_____ [4]

Real time processing is used for sales.

(b) Explain why real time processing is suitable **in this case**.

_____

_____

_____

_____ [2]

(c) Describe the main features of batch processing.

_____

_____

_____

_____

_____

_____

_____

_____ [4]

Customers make secure payments using PayPal.

(d) Describe the main features of PayPal.

_____

_____

_____

_____

_____

_____

_____

_____ [4]

[Turn over

(e) Name and describe one other method of making secure on-line transactions.

Name _____

Description _____

_____

_____

_____

_____

_____ [4]

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20AP11120