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Rewarding Learning

ADVANCED SUBSIDIARY (AS)
General Certificate of Education
January 2014

Information and Communication Technology

Assessment Unit AS 1
assessing
Module 1: Components of ICT

[AP111]

AP111

FRIDAY 17 JANUARY, MORNING

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 five** 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.

1 Applicants for house insurance provide information about their property by completing an on-line form.

(a) Explain how this form can be used as:

A direct data source

_____

_____

_____

_____

An indirect data source

_____

_____

_____

_____ [4]

(b) Describe **one** benefit and **one** drawback of using an indirect data source.

Benefit _____

_____

_____

_____

Drawback _____

_____

_____

_____ [4]

20AP11102

The on-line form includes both data validation and data verification.

(c) Apart from the use of a check digit, name and describe **three** different types of data validation.

Name _____

Description _____

_____

Name _____

Description _____

_____

Name _____

Description _____

_____ [6]

(d) Explain the purpose of data verification.

_____

_____

_____

_____ [2]

(e) When the form is complete the user is given a reference number. The last digit of this number is a modulus-11 check digit.

Showing all your working, state whether or not **12343** is a valid reference number.

_____

_____

_____

_____

_____

_____

_____

_____

_____ [5]

8452

20AP11104

2 A college lecturer uses an interactive whiteboard to present a lesson to students.

(a) Describe the main features of an interactive whiteboard.

_____

_____

_____

_____

_____

_____

_____

_____ [4]

(b) The lecturer saves a copy of the lesson on a USB memory pen.

Identify **three** features of a memory pen which make it suitable for this purpose.

1. _____

_____

2. _____

_____

3. _____

_____ [3]

[Turn over

8452

When the lesson is finished, students complete a multiple choice test using an OMR sheet.

(c) Describe the main features of OMR.

_____

_____

_____

_____

_____

_____

_____

_____ [4]

(d) Describe **two** benefits of using OMR **in this case**.

1. _____

_____

_____

_____

2. _____

_____

_____

_____ [4]

The college uses a multi-user operating system.

(e) Explain the purpose of an operating system.

_____

_____

_____

_____ [2]

(f) Describe the main features of a multi-user operating system.

_____

_____

_____

_____

_____

_____

_____

_____ [4]

Total Question 2

[Turn over

3 Two network topologies are the bus and the star.

(a) Describe how data is transferred on each of these networks.

Bus network

_____

_____

_____

_____

_____

Star network

_____

_____

_____

_____

_____ [6]

8452

20AP11108

(b) Explain why a communications protocol is necessary when data is transferred between computer networks.

_____

_____

_____

_____

_____

_____

_____

_____ [4]

[Turn over

(c) Describe how each of the following are used on a network.

A hub

_____

_____

_____

_____

_____

A proxy server

_____

_____

_____

_____

_____

An IP address

_____

_____

_____

_____

_____ [9]

(d) Describe the main features of Bluetooth technology.

_____

_____

_____

_____

_____

_____

_____ [4]

(e) Explain why fibre optic cable is suitable for use in data communication.

_____

_____

_____

_____

_____

_____ [3]

Total Question 3

[Turn over

20AP11111

4 A health centre makes extensive use of ICT.

(a) The centre manager uses a spreadsheet for financial planning.

Describe the main features of spreadsheet software which make it suitable **in this case**.

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____ [6]

8452

The health centre uses a range of measures to keep data secure.

(b) Identify **three** reasons why passwords may not be effective.

1. _____

_____

2. _____

_____

3. _____

_____ [3]

(c) Explain how access rights could be used to keep patient records secure.

_____

_____

_____

_____

_____

_____

_____ [4]

(d) Staff at the health centre must comply with ICT legislation.

Name and describe the main features of **two** Acts specifically relating to ICT.

Name of Act _____

Description _____

_____

_____

_____

_____

_____

Name of Act _____

Description _____

_____

_____

_____

_____

_____ [8]

8452

20AP11114

(e) Patients can make appointments using the health centre's website.

Explain how a web page can be created using HTML.

_____

_____

_____

_____

_____

_____

_____ [4]

8452

20AP11115

5 An organisation requires new software.

(a) Identify **four** benefits of choosing off-the-shelf software.

1. _____

_____

2. _____

_____

3. _____

_____

4. _____

_____ [4]

The organisation decides on a custom built system.

(b) Identify **two** factors which should be taken into account when deciding the feasibility of the proposed system.

1. _____

_____

2. _____

_____ [2]

8452

(c) Describe the activities which take place during the design stage.

_____

_____

_____

_____

_____

_____

_____

_____ [4]

(d) Documentation will be produced for the new system.

Describe each of the following:

Technical documentation

_____

_____

_____

_____

_____

_____

User documentation

_____

_____

_____

_____

_____

_____ [6]

(e) The new system will undergo testing.

Explain what is meant by each of the following:

Application testing

_____

_____

_____

_____

_____

Acceptance testing

_____

_____

_____

_____

_____

_____ [6]

_____

THIS IS THE END OF THE QUESTION PAPER

_____

20AP11119

DO NOT WRITE ON THIS PAGE