



Rewarding Learning

ADVANCED SUBSIDIARY (AS)
General Certificate of Education
2016

Centre Number

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Candidate Number

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Information and Communication Technology

Assessment Unit AS 1

assessing

Module 1: Components of ICT

[AP111]

TUESDAY 14 JUNE, AFTERNOON

MV18

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.

Complete in blue or black ink only.

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 at the end of each question indicate the marks awarded to each question or part question.

1 A retailer uses a questionnaire to gather data about the shopping preferences of its customers.

(a) **By referring to the questionnaire**, explain what is meant by [4 marks]

A direct data source _____

An indirect data source _____

(b) Explain what is meant by [4 marks, 2 marks for each part]

(i) Data _____

Information _____

(ii) Knowledge _____

Data from the questionnaires is entered into a database.

(c) Describe each of the following validation checks.
[6 marks]

Range check _____

Format check _____

Lookup table _____

(d) Each completed questionnaire is given a unique reference number which includes a modulus 11 check digit.

(i) Explain how a check digit is calculated. [4 marks]

(ii) Explain how a check digit will detect a transposition error. [2 marks]

2 A scanner is used to input a text document.

(a) Describe the main features of Optical Character Recognition (OCR). [4 marks]

(b) Describe **two** benefits of using OCR to capture data. [4 marks]

1. _____

2. _____

Data can be processed using batch processing.

(c) Describe the main features of batch processing.
[4 marks]

The CPU of a computer includes a control unit and internal memory.

(d) Explain the purpose of the control unit. [3 marks]

(e) Identify **three** different types of internal memory and describe how each is used. [9 marks]

Memory type _____

Use _____

Memory type _____

Use _____

Memory type _____

Use _____

3 A Job Centre has a number of interactive terminals.

Members of the public use a search engine to find jobs on the Internet.

(a) Explain how a search engine is used. [4 marks]

(b) Describe the main features of a typical browser. [4 marks]

(c) The software used by the terminals was developed using open source software.

Describe the main features of open source software.
[4 marks]

4 Most computer systems include a network.

(a) Explain how an additional computer can be added to
[4 marks]

A bus network

A ring network

(b) Explain the purpose of each of the following. [6 marks]

Gateway

Firewall

(c) TCP/IP is the protocol used when data is transmitted over the network.

Explain the purpose of each of [6 marks]

The TCP layer _____

The IP layer _____

5 An aircraft manufacturer uses robots to retrieve aircraft parts from its warehouse.

(a) Identify **four** advantages of using robots instead of humans in the warehouse. [4 marks]

1. _____

2. _____

3. _____

4. _____

RFID is used to identify aircraft parts.

(b) Describe the main features of RFID. [4 marks]

(c) Describe **two** advantages of using RFID instead of bar codes to identify aircraft parts. [4 marks]

1. _____

2. _____

6 Security is an important issue for any organisation which uses ICT.

(a) Describe the main features of [6 marks]

A logic bomb _____

A macro virus _____

(b) A disaster recovery plan includes the backup and recovery method to be used.

Identify **three** other contents included in a disaster recovery plan. [3 marks]

1. _____

2. _____

3. _____

7 An ICT system is being developed.

(a) An ICT consultant investigated the feasibility of the system.

Explain what is meant by [6 marks]

Technical feasibility _____

Legal feasibility _____

Social feasibility _____

(b) DFDs were produced during the design stage.

Identify **four** different components of a DFD.

[4 marks]

1. _____

2. _____

3. _____

4. _____

(c) The team developing the system includes a project manager and a number of programmers.

Describe the main responsibilities of [6 marks]

The project manager _____

A programmer _____

(d) The new system will undergo testing.

Describe each of the following [6 marks]

Application testing _____

Acceptance testing _____

THIS IS THE END OF THE QUESTION PAPER

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For Examiner's use only	
Question Number	Marks
1	
2	
3	
4	
5	
6	
7	
QWC	

Total Marks	
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Examiner Number

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