



Rewarding Learning

ADVANCED SUBSIDIARY (AS)
General Certificate of Education
2025

Centre Number

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Candidate Number

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Digital Technology

Assessment Unit AS 2

assessing

Fundamentals of
Digital Technology

MV18

[SDT21]

TUESDAY 27 MAY, MORNING

Time

1 hour 30 minutes, 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 on blank pages.

You are not permitted to use any calculating aid in this paper.

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

Answer **all five** questions.

Information for Candidates

The total mark for this paper is 100.

Figures in brackets printed at the end of each question indicate the marks awarded to each question or part question.

Quality of written communication will be assessed in

Questions **1(d)**, **3(d)**, **4(d)** and **5(e)**.

1 (a) The ASCII character set uses 7 bits to represent characters.

(i) Explain what is meant by a character set.
[2 marks]

(ii) How many different characters can be represented using 7 bits? Give your answer in decimal and in the form 2^n . [2 marks]

Decimal _____

2^n _____

(iii) With the aid of an example, explain what is meant by a control character. [2 marks]

(b) Positive and negative numbers can be represented as two's complement numbers using 8 bits.

00010100_2 represents the decimal value **+20**.

Write down the representation of each of the following decimal values. [2 marks]

+21 _____

-20 _____

(c) A USB memory pen has a memory capacity of 2.5 Gigabytes. How many Megabytes is this? [2 marks]

You must show your working.

- 2 (a) The following is an extract from a table used in a stock control application.

ItemID	ReorderLevel	CurrentStockLevel
765412	500	650
865993	400	350

By referring to this extract, explain each of the following.

Data [2 marks]

Information [2 marks]

Knowledge [3 marks]

(b) Explain how each of the following can affect the quality of information. [4 marks]

Effective presentation

Reliability

(c) Identify the two methods of data verification.
[2 marks]

1. _____

2. _____

- 3 (a) Describe the main features of each of the following hardware components. [9 marks]

Main memory

Clock

Port

(b) Identify one of the internal buses found in a computer system. [1 mark]

(c) Explain the purpose of the following steps in the fetch-execute cycle. [6 marks]

Increment PC

Load data into MDR

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(Questions continue overleaf)

4 (a) List the four main features of a WIMP user interface.
[4 marks]

1. _____
2. _____
3. _____
4. _____

(b) Describe two reasons why a command line interface is suitable for an experienced user. [4 marks]

1. _____

2. _____

(c) Explain the main differences between each of the following formats. [6 marks]

Bitmap

GIF

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(Questions continue overleaf)

- 5 (a)** List two inputs and two outputs involved in a typical ATM. [4 marks]

Inputs

1. _____
2. _____

Outputs

1. _____
2. _____

- (b)** Explain each of the following terms.

Uniform Resource Locator (URL) [2 marks]

Web hosting [3 marks]

(c) Produce HTML code which will display the following ordered list. [4 marks]

1. Sun
2. Moon
3. Stars

(d) By referring to the web address <http://www.abc.co.uk>, explain how a domain name is organised. [4 marks]

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For Examiner's use only	
Question Number	Marks
1	
2	
3	
4	
5	
Total Marks	

Examiner Number

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