



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 1

*assessing*

Approaches to  
System Development

**MV18**

[SDT11]

FRIDAY 16 MAY, AFTERNOON

### 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.**

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

Answer **all six** 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(c)**, **4(c)** and **6(c)**.

1 (a) A computer system consists of three main components. One component is the user interface.

(i) Explain what is meant by the user interface. [3 marks]

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(ii) List the other two main components of a computer system. [2 marks]

1. \_\_\_\_\_

2. \_\_\_\_\_

(b) The programmer writes the source code during system development.

(i) Explain what is meant by source code. [2 marks]

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(ii) Describe three other responsibilities of the programmer during system development.  
[6 marks]

1. \_\_\_\_\_

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2. \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

3. \_\_\_\_\_

\_\_\_\_\_

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**(Questions continue overleaf)**

- 2 (a) By referring to a stock control system, explain the difference between functional and non-functional user requirements. [4 marks]

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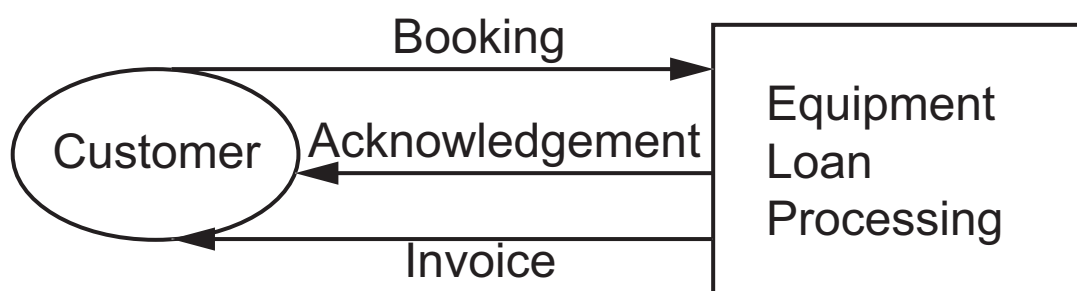
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- (b) A company lends out office equipment to its customers. Equipment must be booked in advance.

The following context level DFD shows how bookings are processed.



- When a booking is received, it is logged in the Booking file and an acknowledgement sent to the customer
- At the end of each month, all bookings for the next month are entered into the Loan file so that bookings can be planned
- When a piece of equipment goes out on loan, the Loan file is updated and the customer is invoiced

Produce a Level 1 DFD for the system as described above. [11 marks]

- 3 (a)** Distinguish between the following stages in the creation of a new information system. [4 marks]

Design

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Development

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**(b)** Prototyping involves the building of a 'first cut' model of a new system which enables users to provide feedback.

**(i)** Describe how prototyping can be used in the design of the user interface. [3 marks]

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**(ii)** Describe how prototyping can be used in the design of the data model. [3 marks]

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(c) A new information system is tested in a number of different ways.

(i) During system testing, a test plan is used.

Identify three main components of a test plan.

[3 marks]

1. \_\_\_\_\_

2. \_\_\_\_\_

3. \_\_\_\_\_

**(ii)** Distinguish between the following types of testing.  
[6 marks]

Beta testing

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Acceptance testing

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- 4 (a) Identify three main contents in each of the following types of system documentation. [6 marks]

User documentation

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_

Technical documentation

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_

- (b) Describe how a new information system will be implemented using the parallel changeover method. [4 marks]

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(c) Compare adaptive maintenance and perfective maintenance with regard to how each can ensure an information system remains suitable for the user.  
[6 marks]

**Quality of written communication will be assessed in this question.**

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**5** An information system is developed using Rapid Application Development (RAD).

**(a)** Describe the main features of RAD. [4 marks]

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The project manager uses Gantt charts and critical path analysis (CPA).

**(b)** Describe the purpose of a Gantt chart. [4 marks]

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**(c)** Describe how CPA is used in project management.  
[4 marks]

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An organisation creates a disaster recovery plan.

**(d)** State the purpose of a disaster recovery plan.  
[2 marks]

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**(e)** Identify three main contents of a disaster recovery plan.  
[3 marks]

1. \_\_\_\_\_

2. \_\_\_\_\_

3. \_\_\_\_\_

- 6 (a)** Distinguish between the following programming terms.  
[4 marks]

Algorithm

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Syntax

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**(b)** Distinguish between each of the following programming concepts. [4 marks]

Selection

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Iteration

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**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	

<b>Total Marks</b>	
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Examiner Number

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