



Cambridge International AS & A Level

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INFORMATION TECHNOLOGY

9626/13

Paper 1 Theory

October/November 2024

1 hour 45 minutes

You must answer on the question paper.

No additional materials are needed.

INSTRUCTIONS

- Answer **all** questions.
- Use a black or dark blue pen.
- Write your name, centre number and candidate number in the boxes at the top of the page.
- Write your answer to each question in the space provided.
- Do **not** use an erasable pen or correction fluid.
- Do **not** write on any bar codes.
- You may use an HB pencil for any diagrams, graphs or rough working.
- Calculators must **not** be used in this paper.

INFORMATION

- The total mark for this paper is 70.
- The number of marks for each question or part question is shown in brackets [].

This document has **12** pages. Any blank pages are indicated.



1 Different symbols are used in program flowcharts.

Draw, in the spaces provided, **four** different program flowchart symbols and for each one, state its purpose.

Symbol 1

Purpose
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.....

Symbol 2

Purpose
.....
.....

Symbol 3

Purpose
.....
.....





Symbol 4

Purpose

.....

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[8]

2 Describe the features of a management information system (MIS).

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[6]



(a) State what is meant by the term second normal form (2NF).

[2]

[8]



4 Validation and verification can be used to check the accuracy of data.

(a) Describe the differences between validation and verification. Your answer must explain the purpose of each.

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..... [3]

(b) Describe each of the following:

(i) range check

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..... [2]

(ii) double data entry

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..... [2]





5 Describe the use of a public key and a private key in asymmetric encryption.

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..... [4]

6 In a spreadsheet, a user has entered the following formula into a cell:

`=IF(NOT(OR(B6<5,B6>8)),"4th Quarter","")`

Describe how the spreadsheet will calculate the result to be displayed.

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..... [3]





7 Describe the term goal driven as used in expert systems.

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[8]

[8]



9 Describe the following types of malware:

(a) spyware

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..... [4]

(b) worm

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[8]

[8]



11 It is important that sensors are calibrated to ensure their readings are accurate.

Describe one point calibration.

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..... [4]





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