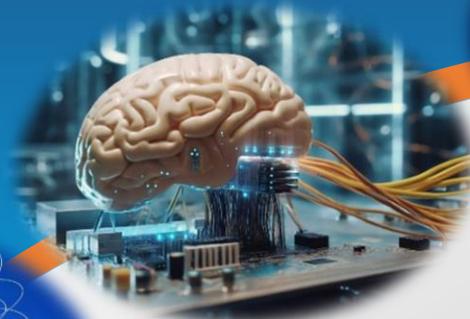




**CARIBBEAN  
EXAMINATIONS  
COUNCIL**

**CAPE<sup>®</sup> COMPUTER SCIENCE**

**UNIT 1**



**Subject Report**

*May-June 2025*



**CARIBBEAN EXAMINATIONS COUNCIL**

**REPORT ON CANDIDATES' WORK IN THE  
CARIBBEAN ADVANCED PROFICIENCY EXAMINATION**

**MAY-JUNE 2025**

**COMPUTER SCIENCE  
UNIT 1**

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## INTRODUCTION

This guide has been put together using candidates' responses to the 2025 May-June examination in CAPE Computer Science. The report reflects the original design of the examination paper.

The examination comprised the following papers.

Paper 01: Multiple Choice

Paper 02: Structured Essay

Paper 031: School-Based Assessment (SBA)

Paper 032: Alternative to School-Based Assessment (Private Candidates)

### Grades I to V

In the 2025 Unit 1 examination, approximately 95.18 per cent of candidates obtained acceptable grades, Grades I to V compared to 91.86 per cent in 2024, 91.31 per cent in 2023, 89.68 per cent in 2022 and 93.98 per cent in the 2021 examinations.

### Grades I to III

The candidates achieving Grades I–III in 2025 were 63.27 per cent compared to 62.10 per cent in 2024, 59.03 per cent in 2023, 59.81 per cent in 2022 examinations and 67.89 per cent of the candidates in the 2021 examinations.

### Grade I

In the 2025 Unit 1 examination, approximately 20.73 per cent of candidates earned Grade I compared with 22.07 per cent in 2024, 22.66 per cent in 2023, 22.59 per cent in 2022 and 26.27 per cent of the candidates in the 2021 examinations.

## PAPER 01 – MULTIPLE CHOICE

Paper 01 consists of 45 multiple choice questions which cover all the modules of the Cape Computer Science Unit 1 Syllabus. The examination consisted of 15 questions from each of the following.

Module 1: Computer Architecture

Module 2: Problem-Solving with Computers

Module 3: Programming

In the 2025 examinations, the maximum score obtained in Paper 01 was 88 out of 90 marks and the mean score was 63.03 marks.

## PAPER 02 – STRUCTURED ESSAY

Paper 02 consists of six compulsory questions with two questions from each module.

In the 2025 examinations, the maximum score obtained in Paper 02 was 143 out of 150 marks and the mean score was 65.02 marks.

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### Question 1

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#### Part (a)

This part was not answered correctly by many candidates. They did not seem to be familiar with the various character sets. *ASCII with 8 bits* was the most common correct answer. Otherwise, many candidates did not respond or simply wrote down ‘bits’ and ‘bytes’ as character sets, which was incorrect.

#### Part (b)

This part was answered fairly well. Candidates seemed familiar with the base 16 number system and recognized that  $B = 11$ . Many candidates broke down the numbers in binary and just as many candidates directly employed the hex number system to arrive at the decimal conversion.

Some candidates did not show all the steps to arrive at the correct answer and lost a mark for the omitted step. This misstep was especially made by candidates who employed the direct base 16 conversion.

Most candidates earned the first two marks for displaying the binary or hex headings showing the equivalent values; however, they ended up adding incorrectly.

#### Part (c) (i)

The completion of the truth table was mostly done well; for the most part, candidates entered the correct sequence in each row. Some candidates used Yes/No or Y/N responses; this was allowed. However, some candidates wrote ‘Window’, ‘Door’, ‘Both’ or ‘Alarm’; these responses were unacceptable.

#### Part (c) (ii)

The drawing of the logic gate circuit was well done for the most part. Most candidates understood what primary gates meant and so, they were rewarded for correctly placing the AND gate and/or the OR gate. A few candidates made detailed sketches of some complex circuits that turned out to be correct, but some candidates still used the derived gates (NOR, NAND, XNOR, XOR); these were incorrect.

Some candidates did not include the output line and therefore lost a mark. The most intuitive answers seen were the ones employing the single OR and the single AND gate. However, a few candidates also correctly displayed their diagrams with two AND gates feeding into one OR gate.

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## Question 2

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### Part (a)

Almost every candidate correctly gave *Braille keyboard* as an input device and went on to state how it works. A few others correctly wrote *microphone* as their answer. Regarding the output device, *speakers* were the most popular response and candidates explained the text-to-speech concept. Most candidates scored full marks.

### Part (b)

Not many candidates attained full marks on this question, as they did not fully describe the correlation which occurs between clock speed and CPU performance. However, most candidates correctly indicated that a faster clock speed equated to a faster CPU cycle and so, they scored one out of the three marks.

### Part (c)

For this part, the differences between RAM and cache were mostly understood. This was demonstrated by how candidates appropriately applied factors such as *speed, capacity, access to frequently used data* and *cost* when providing the advantages and disadvantages.

### Part (d)

This part was generally well done. Candidates understood the explanation of the codes and correctly indicated the MUL and MOV commands. However, many candidates used the SUB command incorrectly, placing the A and B memory locations in the wrong order. Hence, they were only able to earn three out of the four marks.

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## Question 3

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### Part (a)

Most students submitted correct answers.

### Part (b) (i)

This part was not well done. Candidates did not correctly or fully explain what *implementation* meant and, in most cases, just re-used the word. It was the same with the term *review*.

### Part (b) (ii)

This part was also not answered well. Candidates failed to explain that *select* meant that there is more than one solution from which the best one is to be chosen. Regarding *justify*, while some candidates mentioned that this relates to giving an explanation concerning why a choice is best, they failed to indicate the use of a criteria to help determine choice.

### Part (c)

Most candidates answered this question correctly. Candidates identified the lines containing the errors but the rewriting of those lines was not always accurate. Many candidates correctly recognized that Line 6 had an error but incorrectly rewrote the solution as  $k+2$ , instead of  $k=k+2$ .

### Part (d) (i)

Most candidates correctly identified Algorithm 1 as the unbounded one, but not all could properly explain why this was so. It was so because that algorithm was using a FOR loop which terminates when  $B = 10$ .

### Part (d) (ii)

Almost all candidates indicated that when  $A$  becomes 0, the algorithm ends.

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## Question 4

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### Part (a)

This part was well answered by most candidates and all who attempted it earned at least the first mark.

### Part (b)

This part was not well answered at all. Candidates consistently seemed to encounter difficulty explaining the role that logic plays in computer programs.

### Part (c)

This part was moderately answered. Some candidates combined two statements in a process box; this was not penalized. However, there were some incorrect responses including those where candidates did the following.

- Used the shapes for decision and iterations incorrectly
- Incorrectly showed where the looping occurred
- Left operations without any flow, as in failing to connect to anything
- Omitted the START and STOP shapes
- Omitted the YES(Y) or NO(N) labels on the decision/looping shapes

It must be noted that candidates lost a mark when they failed to indicate in the INPUT/OUTPUT box whether it was an INPUT/READ or a DISPLAY/PRINT.

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## Question 5

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### Part (a)

This part was well answered. Most candidates correctly identified the three most common styles and documentation — white space, comments and indentations.

### Part (b)

Most candidates were able to score some marks, but overall, the question was not well answered. However, some candidates did remarkably well, submitting beautifully elegant solutions that incorporated functions and employed recursion.

Some candidates understood the logic of the program requirements but failed to write down proper code, that is, they omitted necessary symbols such as (), {}, % and &, thereby losing marks. In addition, some candidates wrote Pascal code and thus gained no marks. Candidates also produced pseudocode which cost them their scores.

Displaying the preprocessor headers `<stdio.h>` etc., and indicating `int main()` earned no extra marks. Many candidates thought that the example, which showed what the term *factorial* meant (5 factorial), was the required code. Such candidates lost marks since a general solution was compulsory.

### Part (c)

Most candidates did not write down a fully correct answer. This would have required them to display a triangle of one 1, two 2s, three 3s and four 4s, as shown below. However, all candidates earned at least one mark for writing down the one 1.

```
1
2 2
3 3 3
4 4 4 4
```

---

## Question 6

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### Part (a) (i)

Many candidates got the initialization for Java correct, that is, `int x = 5`. Candidates were not penalized for not having semicolons.

### Part (a) (ii)

Very few candidates got the initialization for Python correct, that is `x = 5`. No data type or semicolon was required.

### Part (a) (iii)

Even fewer candidates were able to correctly initialize the variable in Javascript. The correct answer was `var x = 5` or `let x = 5`.

### Part (b)

Many candidates failed to understand the logic of the program and were unable to score maximum marks on the code writing exercise. When employing the function, many candidates used 'void' instead of `int` as the function type. Also, they did not correctly pass the array as one of its arguments, the correct array name was not used and its elements were incorrectly processed. Once again, proper C language rules were not followed and in fact, Pascal and pseudocode constructs incorrectly replaced C.

### Part (c)

Responses regarding file processing were poor. File pointers were incorrectly initialized and reading the data from the text file appeared challenging. Most candidates accomplished the processing of the data after being read, so the summation of donations and the counting of donations were properly done for the most part.

The loop to continuously capture the donations until -1 was read was not well done. However, candidates earned at least three marks for the initialization of variables, the processing of the donations and the displaying of both their summation and counting.

## PAPER 031 – SCHOOL BASED ASSESSMENT

School-Based Assessment which is a project-based activity occur during the candidate's course of study. Candidates obtain marks for the competence they develop and demonstrate in undertaking their School-Based Assessment assignments. SBAs are marked out of a total of 60 marks.

The maximum score obtained in this paper was 60 out of 60 marks and the mean score was 47.34 marks.

## PAPER 032 – ALTERNATIVE TO THE SCHOOL BASED ASSESSMENT

This paper is an alternative to Paper 031, SBA. Candidates are expected to respond to seven questions based on a case study. The tasks to be completed were like the tasks that the school candidates would normally complete and submit for school-based assessment. The total of the examination was 60 marks.

In 2025 May-June sitting, no candidates sat the CAPE Computer Science Unit 1 Paper 032 examination.