Chhetri Academy

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GCSE COMPUTER SCIENCE

2.5

OCR J277 | Specification point 2.5.1

Languages

Untiered

Past paper question booklet

3	2023-2025	Untiered
question groups	available papers	tier

Before you begin

1. Show working and use units where appropriate.
2. Use extra paper if you need more space.
3. Print at actual size (100%) for measurement questions.

Name _____ **Date** _____

Whole questions are retained for context; some parts cover other points. Legacy sources are labelled.

1 **(a)** The table contains four statements about programming languages.

Tick (✓) **one** box in each row to identify whether each statement describes a low-level programming language or a high-level programming language.

Statement	Low-level	High-level
The same language can be used on computers that use different hardware		
It allows the user to directly manipulate memory		
It allows the user to write English-like words		
It always needs to be translated into object code or machine code		

[4]

(b) The variables `num1` and `num2` store integers.

Write pseudocode to add the integers stored in `num1` and `num2`. Store the result in a variable with the identifier `total`

.....

..... **[1]**

(c) Three incomplete pseudocode algorithms are given with a description of the purpose of each algorithm.

Write the missing arithmetic operator for each algorithm.

(i) Outputting 12 to the power of 2.

```
print(12 ..... 2)
```

[1]

(ii) Working out if a number is odd or even.

```
number = 53
if number ..... 2 == 0 then
   print("Even number")
else
   print("Odd number")
endif
```

[1]

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(iii) Finding the difference between two measurements.

```
measurement1 = 300

measurement2 = 100

difference = measurement1 ..... measurement2
```

[1]

(d) Read the following pseudocode algorithm:

```
01  start = 3
02  do
03    print(start)
04    start = start - 1
05  until start == -1
06  print("Finished")
```

Complete the following trace table for the given algorithm.

Line number	`start`	Output

[3]

7 Programs can be written in high-level languages or low-level languages.

(a) Give **two** reasons why some programs are written in a low-level language.

1 .....

.....

2 .....

..... **[2]**

(b) Describe the benefits of using a compiler instead of an interpreter when writing a program.

.....

.....

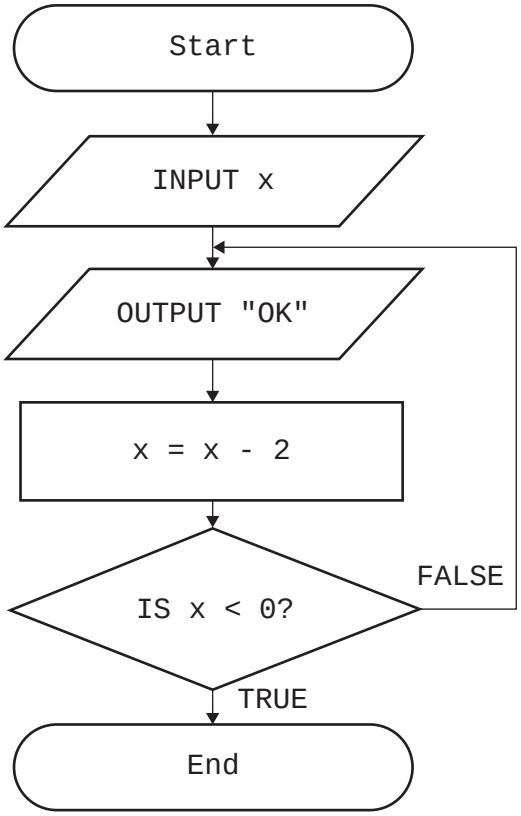
.....

.....

.....

..... **[3]**

2 This flowchart uses iteration.



(a) Complete the table by identifying how many times "OK" will be output for when each value is input.

Input value	Number of times "OK" is output
3	
10	

[2]

(b) Iteration is a programming construct.

(i) Identify **and** describe **two** different examples of iteration that can be used in a high-level language.

1 .....

.....

.....

2 .....

.....

.....

[4]

(ii) Give the names of **two** other programming constructs that are used in a high-level language.

1 .....

2 .....

[2]

(c) A programmer implements the flowchart as a program in a high-level language using an Integrated Development Environment (IDE).

Identify and describe **two** tools that the programmer could use in the IDE to create a program from the flowchart.

Tool 1 .....

Description .....

.....

Tool 2 .....

Description .....

.....

[4]

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