Chhetri Academy

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GCSE COMPUTER SCIENCE

6.2

Edexcel 1CP2 | Specification point 6.2.2

be able to write programs that make appropriate use of

Untiered

Past paper question booklet

1	2016	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.

2 Charles is a computer programmer for a company that sells digital products through the Internet.

He must be aware of the ethical and legal issues arising from the use of computers.

(a) Identify the legislation that applies in each situation.

(3)

Situation	EU Cookie Law (e-Privacy Directive)	Computer Misuse Act	Copyright, Designs and Patents Act
A teenager was given a computer game for her birthday. She gives a copy of the game to her friend.	☒	☒	☒
A university student tries to gain access to government computers, even though he is not a registered user.	☒	☒	☒
A company has been storing small files on users' computers to track the use of its website, but is not telling them.	☒	☒	☒

(b) Charles is writing program code for the IT department to use.

(i) Identify the type of programming language **most** suitable for each situation.

(4)

Situation	High-level programming language	Low-level programming language
Keeping a list of computers that need fixing.	☒	☒
Increasing the speed of part of a computer program so that it runs in 1 hour instead of 20 hours.	☒	☒
Keeping track of how many users log into the company's file servers each day.	☒	☒
Writing a program for a new computer processor.	☒	☒

Here is some pseudocode.

```
10  SET aNum TO 0
11  SET userNum TO 0
12
13  WHILE userNum = 0 DO
14      SEND "Enter a number:" TO DISPLAY
15      RECEIVE userNum FROM (INTEGER) KEYBOARD
16  END WHILE
17
18  IF userNum < 10 THEN
19      SET aNum TO cubeNum (userNum)
20  ELSE
21      SET aNum TO userNum
22  END IF
23  SEND aNum TO DISPLAY
24
25  FUNCTION cubeNum (aNum)
26  BEGIN FUNCTION
27      SET total TO aNum * aNum * aNum
28      RETURN total
29  END FUNCTION
```

(ii) State the coding technique that Charles could use to make the pseudocode easier to understand.

(1)

.....

(iii) State the name of the subprogram shown in the pseudocode.

(1)

.....

(iv) State the range of line numbers that show a selection statement.

(1)

.....

(v) State a line number on which the variable `aNum` is a local variable.

(1)

.....

(vi) State a line number on which the variable `aNum` is a global variable.

(1)

.....

(c) Charles is preparing to write program code.

(i) Complete the table to show the place value of the 1s to the right of the decimal in this binary real number.

(3)

Place value	4	2	1	•					
	0	1	0	•	1	1	0	0	0

Convert this binary real number to denary.

(ii) State the number of bits in a nibble.

(1)

(iii) Write an arithmetic expression to show the time needed to transmit a 10 KB file at 10 Mbps.

(2)

(Total for Question 2 = 18 marks)