This mark scheme is published as an aid to teachers and candidates, to indicate the requirements of the examination. It shows the basis on which Examiners were instructed to award marks. It does not indicate the details of the discussions that took place at an Examiners’ meeting before marking began, which would have considered the acceptability of alternative answers.

Mark schemes should be read in conjunction with the question paper and the Principal Examiner Report for Teachers.

Cambridge will not enter into discussions about these mark schemes.

Cambridge is publishing the mark schemes for the October/November 2015 series for most Cambridge IGCSE®, Cambridge International A and AS Level components and some Cambridge O Level components.

© IGCSE is the registered trademark of Cambridge International Examinations.
Section A

1 (a) (i) Any two variables with matching uses, one mark for the variable name and one mark for the matching use. The variables and the matching uses must relate to the tasks on the exam paper. There are many possible correct answers these are examples only.

Variable 1 – Counter(: INTEGER)
Use – to use as a loop counter when entering the temperatures

Variable 2 – BabyTemperature(: REAL)
Use – to store the baby’s temperature [4]

(ii) Any two constants with matching uses, one mark for the constant (name and value) and one mark for the matching use. The constants and the matching uses must relate to the tasks on the exam paper. There are several possible correct answers these are examples only.

Constant 1 – MinBabyTemperature = 36.0
Use – to keep the lowest acceptable baby temperature

Constant 2 – MaxBabyTemperature = 37.5
Use – to keep the highest acceptable baby temperature [4]

(b) Any five from
– prompt for baby’s temperature
– input baby’s temperature
– test for > 37.5
– ... then output suitable message if this is the case
– test for < 36.0
– ... then output suitable message if this is the case
– output suitable message if temperature between those values [5]

Sample algorithm:

PRINT 'Please enter temperature of baby '
INPUT BabyTemperature
IF BabyTemperature > MaxBabyTemperature or 37.5
THEN Print 'Temperature too high'
ELSE
IF BabyTemperature < MinBabyTemperature or 36.0
THEN Print 'Temperature too low'
ELSE Print 'Temperature OK'
ENDIF
ENDIF
(c) (i) Explanation

**General marks** award as seen

Give **one** mark for a mention of any one of the **4** checks below

**If a mark is given for a check then** mark the corresponding action taken

Maximum of **five** marks overall

**General**

– check all recorded temperatures (loop 18 times)
– update counter for those out of range
– output suitable message if counter ≥ 2

1 **check if temperature range** <= 1 and **highest recorded** not out of range and **lowest recorded** not out of range
   – ... exit

2 **check if temperature range** > 1...
   – ... output suitable message e.g. "Temperature range greater than one degree"

3 **check if highest recorded temperature out of range**...
   – ... output a suitable message if at least two recorded temperatures out of range
     e.g. "Temperature too high on more than one occasion"

4 **check if lowest recorded temperature out of range**...
   – ... output a suitable message if at least two recorded temperatures out of range
     e.g. "Temperature too low on more than one occasion" [5]

(ii) **Any two from**

– only checks necessary conditions
– uses results from task 2
– checks for normal values first [2]
Section B

2 One mark for each error identified + suggested correction
line 4 or (Total =) Total + 1: this should read (Total =) Total + Num
line 5 or Counter = Counter + 1: delete this line
line 6 or (Average = )Total / Counter: swap lines 6 and 7
line 6 or (Average = )Total / Counter : this should read (Average =) Total / 50

3 (a) Number 1 Trace table

<table>
<thead>
<tr>
<th>X</th>
<th>Posn</th>
<th>New</th>
<th>T1</th>
<th>T2</th>
<th>Output</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>5</td>
<td>1</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>10</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>100</td>
<td>1</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>101</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>101</td>
<td></td>
</tr>
</tbody>
</table>

(1 mark) (1 mark) (1 mark) (1 mark)

Number 2 Trace table

<table>
<thead>
<tr>
<th>X</th>
<th>Posn</th>
<th>New</th>
<th>T1</th>
<th>T2</th>
<th>Output</th>
</tr>
</thead>
<tbody>
<tr>
<td>12</td>
<td>1</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>10</td>
<td>0</td>
<td>6</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>100</td>
<td>0</td>
<td>3</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>1000</td>
<td>100</td>
<td>1</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>1100</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(1 mark) (1 mark) (1 mark) (1 mark)

(b) Converts a (denary) number to binary
4 There are many possible correct answers this is an example only.
Normal  e.g. 1.7
Extreme  0.5 or 2.0 only
Abnormal  e.g. one

5 – IF (... THEN ... ELSE ... ENDIF)
– CASE (... OF ... OTHERWISE ... ENDCASE)

6 (a) (i) One mark for every two correct types
Title – text
Artist – text
Description – text/memo
Catalogue Number – text/(auto)number
Size – number
Price – currency/number
Arrived – date
Sold – "yes/no"/text/Boolean
0, 1 no marks
2, 3 one mark
4, 5 two marks
6, 7 three marks
8 four marks

(ii) Catalogue Number

(b) One mark for each correct different check
Catalogue Number  Format check/Presence Check/Check Digit/Length check/uniqueness check
Size  Type check/Presence Check/Range check
Price  Type check/Presence Check/Range check
Arrived  Type check/Presence Check/Range check/Format check/Select from calendar length check

(c)

<table>
<thead>
<tr>
<th>Field:</th>
<th>Catalogue Number</th>
<th>Title</th>
<th>Price</th>
<th>Artist</th>
<th>Sold</th>
</tr>
</thead>
<tbody>
<tr>
<td>Table:</td>
<td>PICTURE</td>
<td>PICTURE</td>
<td>PICTURE</td>
<td>PICTURE</td>
<td>PICTURE</td>
</tr>
<tr>
<td>Sort:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Show:</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Criteria:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>='Twister’ False</td>
</tr>
<tr>
<td>or:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(1 mark) (1 mark) (1 mark) (1 mark) (1 mark)