GCSE

4331/01

INFORMATION AND COMMUNICATION TECHNOLOGY

UNIT 1: Understanding ICT
(Short Course) INFORMATION AND COMMUNICATION TECHNOLOGY
UNIT 1: Understanding ICT

WEDNESDAY, 17 MAY 2017 – MORNING
1 hour 30 minutes

INSTRUCTIONS TO CANDIDATES

Use black ink or black ball-point pen. Do not use pencil or gel pen. Do not use correction fluid.
Write your name, centre number and candidate number in the spaces at the top of this page.
Answer all questions.
Write your answers in the spaces provided in this booklet.
If you run out of space, use the continuation pages at the back of the booklet, taking care to number the question(s) correctly.

INFORMATION FOR CANDIDATES

The number of marks is given in brackets at the end of each question or part-question.
Quality of written communication will be assessed in question 12.
1. **Tick (✓) the correct boxes below to show which of the following statements about Bluetooth connectivity are True or False.**

<table>
<thead>
<tr>
<th>Statement</th>
<th>True</th>
<th>False</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bluetooth will only work over long distances</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No wires are needed when exchanging files via Bluetooth</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bluetooth allows you to speak hands-free on a phone</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Music can be played wirelessly from your phone to a speaker using Bluetooth</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Transfer speeds when sending files are faster than using wireless (Wi-Fi)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

2. **A school has recorded the daily temperature on their sports field at the same time every day. Complete the table below to show an example of data and information.**

The data and information **must** be linked to the example of knowledge given below.

<table>
<thead>
<tr>
<th>Knowledge</th>
<th>The highest recorded temperature was 31°C and this was the warmest day of the week.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Data</td>
<td></td>
</tr>
<tr>
<td>Information</td>
<td></td>
</tr>
</tbody>
</table>
3. (a) The members of a family use email. Describe what is meant by email. [2]

(b) Give one example of how a family member could make use of email. [1]

(c) Sending an email is a low cost way of communicating; give one other advantage of using email services. [1]
(d) A family member receives the following email.

From: email77no-secret@online.com
To: Recipients
Subject: Urgent action needed
Date: May 7 2017 05:54:33

Dear Sir/Madam
It has come to our attention that your account need to be updating.
Please click here urgently to enter your username and password to allow u to use your banking account with no worries. You just need to verify your account number and password.
Kind regards
The online Banking team

world bank 2007 - 2015

(i) Tick (✓) the correct box below to show which misuse of email is being attempted in the above email. [1]

- Viruses
- Cyberbullying
- Phishing

(ii) Describe two features of the email that would cause the family member to be suspicious about this email. [2]

(iii) Give one piece of advice on how the family member could prevent any misuse caused by this email. [1]
4. A family run a pet grooming business from home. They have created a database of all their clients. Part of the database is shown below.

<table>
<thead>
<tr>
<th>Owner ID</th>
<th>Owner Name</th>
<th>Pet Name</th>
<th>Pet Type</th>
<th>Shampoo?</th>
<th>Date of Last Visit</th>
</tr>
</thead>
<tbody>
<tr>
<td>12</td>
<td>S Jones</td>
<td>Ruby</td>
<td>Cat</td>
<td>Y</td>
<td>25/04/2017</td>
</tr>
<tr>
<td>23</td>
<td>D Khan</td>
<td>Co Co</td>
<td>Rabbit</td>
<td>N</td>
<td>12/01/2017</td>
</tr>
<tr>
<td>36</td>
<td>L Finch</td>
<td>Snowflake</td>
<td>Dog</td>
<td>Y</td>
<td>07/05/2017</td>
</tr>
<tr>
<td>49</td>
<td>J Tuck</td>
<td>Spot</td>
<td>Cat</td>
<td>N</td>
<td>06/05/2017</td>
</tr>
<tr>
<td>54</td>
<td>J Redman</td>
<td>Sailor</td>
<td>Dog</td>
<td>Y</td>
<td>29/10/2016</td>
</tr>
<tr>
<td>61</td>
<td>G Rees</td>
<td>Scooby</td>
<td>Dog</td>
<td>N</td>
<td>25/02/2017</td>
</tr>
<tr>
<td>79</td>
<td>N Williams</td>
<td>Daisy</td>
<td>Cat</td>
<td>Y</td>
<td>27/03/2017</td>
</tr>
<tr>
<td>85</td>
<td>S Edwards</td>
<td>Spike</td>
<td>Dog</td>
<td>N</td>
<td>22/09/2016</td>
</tr>
<tr>
<td>97</td>
<td>M Kazlauskas</td>
<td>George</td>
<td>Rabbit</td>
<td>N</td>
<td>18/12/2016</td>
</tr>
<tr>
<td>101</td>
<td>A Miller</td>
<td>Duke</td>
<td>Dog</td>
<td>Y</td>
<td>03/03/2017</td>
</tr>
</tbody>
</table>

(a) State how many fields with a *Boolean* data type are shown in the database. [1]

(b) Give the name of the **key field** and explain the purpose of this field. [2]

(c) The family sorts the database into **ascending** order of **Date of Last Visit**. Give the Owner ID that would appear at the top of the list. [1]

(d) **Tick (✓)** the correct **validation method** that could be used on the **Pet Type** field. [1]

- Drop down list
- Length check
- Range check
The family need to find out which dogs have a shampoo treatment. Complete the table below to show how they can obtain this information from the database.

![Table](image)

The family would like to include a calculated field called **Reminder Letter Due** to allow them to send reminders to owners 30 days after their last visit. Give the calculation that would be used in this field.

![Math expression](image)
5. A family are planning a new games room for their home. They have priced up four options as shown below.

<table>
<thead>
<tr>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Budget</td>
<td>£2,000.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Items</td>
<td>Option 1</td>
<td>Option 2</td>
<td>Option 3</td>
<td>Option 4</td>
</tr>
<tr>
<td>4. Wooden Flooring</td>
<td>£500</td>
<td>£400</td>
<td>£700</td>
<td>£250</td>
</tr>
<tr>
<td>5. Rug</td>
<td>£40</td>
<td>£55</td>
<td>£160</td>
<td>£80</td>
</tr>
<tr>
<td>6. Lamp</td>
<td>£30</td>
<td>£100</td>
<td>£55</td>
<td>£110</td>
</tr>
<tr>
<td>7. Table</td>
<td>£40</td>
<td>£25</td>
<td>£125</td>
<td>£65</td>
</tr>
<tr>
<td>8. Blinds</td>
<td>£40</td>
<td>£65</td>
<td>£50</td>
<td>£75</td>
</tr>
<tr>
<td>9. Painting</td>
<td>£10</td>
<td>£40</td>
<td>£50</td>
<td>£55</td>
</tr>
<tr>
<td>10. Television</td>
<td>£400</td>
<td>£350</td>
<td>£1,150</td>
<td>£550</td>
</tr>
<tr>
<td>11. Games Console</td>
<td>£300</td>
<td>£315</td>
<td>£450</td>
<td>£400</td>
</tr>
<tr>
<td>12. Virtual Reality Headset</td>
<td>£600</td>
<td>£500</td>
<td>£200</td>
<td>£300</td>
</tr>
<tr>
<td>13. Gaming Chair</td>
<td>£40</td>
<td>£50</td>
<td>£110</td>
<td>£100</td>
</tr>
<tr>
<td>14. Total</td>
<td>£2,000</td>
<td>£1,900</td>
<td>£3,050</td>
<td>£1,985</td>
</tr>
<tr>
<td>15. 15% Discount</td>
<td>£300.00</td>
<td>£285.00</td>
<td>£457.50</td>
<td>£297.75</td>
</tr>
<tr>
<td>16. Total Cost</td>
<td>£1,700.00</td>
<td>£1,615.00</td>
<td>£2,592.50</td>
<td>£1,687.25</td>
</tr>
<tr>
<td>17. Within Budget</td>
<td>In Budget</td>
<td>In Budget</td>
<td>Over Budget</td>
<td>In Budget</td>
</tr>
</tbody>
</table>

(a) Which of the following formulas would be used in cell B14. [1]

A = A4 + A5 + A6 + A7 + A8 + A9 + A10 + A11 + A12 + A13
B = SUM(B4:B13)
C = SUM(B3:B14)
D = B3 + B4 + B5 + B6 + B7 + B8 + B9 + B10 + B11 + B12 + B13

(b) Give a suitable formula for calculating the Total Cost in cell E16. [1]

= ...........................................................................................................................................................................................................

(c) Circle which function could be used to find the lowest cost option for a Gaming Chair. [1]

MIN      MAX     AVERAGE   ROUND

(d) Give the formula used to calculate the 15% Discount in cell B15. [1]

= ...........................................................................................................................................................................................................
(e) Give the formula you would expect to be used in cell E17. [1]

= IF

(f) Other than being able to create What If scenarios, give two other benefits of using a spreadsheet. [2]

6. A school is considering changing their existing biometric registration system. Give two other methods of electronic registration that could be used and for each, discuss a different advantage and disadvantage. [3 × 2]
7. A school uses ICT to monitor the weather.

(a) Give three suitable sensors that would be used to collect weather data. [3]

Sensor 1

Sensor 2

Sensor 3

(b) Tick (✓) the correct boxes below to show which three of the following are ways of displaying weather information. [3]

Table

Icons

Logging

Weather balloons

Animations

Science experiment

(c) Other than ways of displaying weather information, give three advantages and one disadvantage of ICT based weather forecasting systems. [4]
8. The settings in the desktop environment can be changed. 

Describe how the desktop environment can be customised to meet the needs of a user. [3]

9. Using a computer can cause health hazards. Describe the cause of three different health hazards. For each one describe a different way to reduce the hazard. [3 × 2]
10. Music can be bought from a website and downloaded onto different devices.

(a) Give one method of finding a specific song on a music download website. [1]

(b) Describe three advantages of downloading music at home. [3]

(c) Give one disadvantage of downloading music. [1]
11. **Social networking** is a form of home entertainment.

Describe **two uses** of Social Networking and discuss the different **advantages and disadvantages** of Social Networking to the user. [8]
12. A school is organising a trip.

Email software can be used to contact the hotel and enquire about room bookings.

Other than email, state four different types of software that could be used in organising the trip.

Describe two different examples of how each type of software could be used in organising the trip.

Remember that the quality of written communication will be assessed in this question.
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