WJEC CBAC

GCSE

4331/01

INFORMATION AND COMMUNICATION TECHNOLOGY

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

A.M. WEDNESDAY, 14 May 2014

1 hour 30 minutes

For Examiner's use only		
	Maximum Mark	Mark Awarded
Total	**80**	

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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 **11.**

*Answer **all** questions.*

1. **Tick (✓)** the correct boxes below to show if these items are data, information or knowledge. [3]

Item	Data	Information	Knowledge
12.9 minutes, 15.3 minutes, 7.4 minutes	1	2	3
12.9, 15.3, 7.4	4	5	6
The competitor who ran the race in 7.4 minutes was the winner	7	8	9

2. A computer can connect to the Internet using *broadband* or *dial-up*.

    (a) **Tick (✓)** the correct boxes below to show whether the statement is true for broadband or dial-up. [3]

Statement	Broadband	Dial-up
This connection allows high speed file downloading.	1	2
This connection does not allow you to use the house phone at the same time as being connected to the Internet.	3	4
You have to connect each time you use the Internet.	5	6

    (b) Wi-Fi is a way of connecting devices.

    Give **one** *advantage* and **one** *disadvantage* of using Wi-Fi. [2]

    Advantage ....

    ....

    Disadvantage ....

    ....

(c) State **one** improvement that new developments in mobile phone services, e.g. 4G technology, could bring to users. [1]

....

....

3. (a) Other than a laptop, state a device that can be used for email. [1]

....

(b) State the name of the method of sending an email to more than one person at the same time without the original recipient knowing. [1]

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(c) Other than being able to use email on many devices and sending an email to more than one person at the same time, give **three** *other different* advantages of email. [3]

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(d) Other than getting a virus and hacking, give **three** *different* disadvantages of using email. [3]

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4. **Tick (✓)** the correct boxes below to show which of the following statements about *Geographical Information Systems (GIS)* are **True** or **False**. [4]

Statement	True	False
GIS can help you find the shortest route from A to B.	1	2
GIS do not need to be updated.	3	4
If you are lost, GIS can locate where you are.	5	6
GIS only work in Europe.	7	8

5. A school keeps details of all members of the Student Council in a database. Part of this database is shown below.

Student ID Code	Name	Gender	Year Group	Role
AD1663	Tennant N	M	10	Prefect
AD1607	Pepper T	M	10	House Captain
AD1707	Lewis S	F	11	House Captain
AD1717	Hassan N	M	11	Prefect
AD1729	Davies K	F	11	House Captain
AD1820	Squires A	F	12	Deputy Head Girl
AD1817	Thomas G	M	12	Deputy Head Boy
AD1933	Jones D	F	13	Head Girl
AD1927	Saddiq M	M	13	Head Boy

(a) Identify the *key field*. [1]

(b) State the purpose of the key field. [1]

....

(c) The teacher sorts the database in *descending* order by the **Name** field.

Give the name that would appear at the top of the list. [1]

(d) Give the name for the formatted output from a database. [1]

....

(e) The school would like to add a *home telephone number* field to the database. Name the data type that would be appropriate for this new field. [1]

....

(f) The **Gender** field is encoded. State **two** *advantages* of encoding data. [2]

Advantage 1 ....

....

Advantage 2 ....

....

(g) Complete the table below to show how to find all students who are House Captains in Year 11. [2]

Field Name	Operator	Search Criteria
	=	

AND

Field Name	Operator	Search Criteria
	=	

(h) Name a validation technique which could be used on the **Student ID Code** field and describe how this could be applied. [2]

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6. A family keeps a spreadsheet to organise its finances, as shown below.

	A	B	C	D	E	F	G	H
1	Monthly Income	£1,750						
2								
3	Month	Phone	Food	Electricity	Water	Heating	Total Costs	Balance
4	January	£30	£380	£50	£45	£175	£680	£1,070
5	February	£33	£360	£50	£45	£220	£708	£1,042
6	March	£40	£410	£50	£45	£255	£800	£950
7	April	£25	£375	£50	£45	£150	£645	£1,105
8	May	£77	£400	£50	£45	£45	£617	£1,133
9	June	£77	£450	£50	£45	£38	£660	£1,090
10	July	£55	£400	£50	£45	£20	£570	£1,180
11	August	£55	£425	£50	£45	£20	£595	£1,155
12	September	£55	£400	£50	£45	£75	£625	£1,125
13	October	£55	£430	£50	£45	£120	£700	£1,050
14	November	£55	£400	£50	£45	£177	£727	£1,023
15	December	£86	£500	£60	£45	£254	£945	£805

(a) Give the data in cell **A9**. [1]

(b) Give the letter of **one** of the following formulas that could be used to find the **Total Costs** in cell **G6**. [1]

    A =A6+B6+C6+D6+E6
    B =SUM(B6:F6)
    C =SUM(B7:F7)
    D =B6+C6+D6+E6+F6+G6

(c) The formula for working out the **Balance** in Cell **H13** is =B1–G13. State the type of cell reference used in **B1** and explain why this type of referencing is used to calculate the **Balance** in column H. [2]

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(d)   State the month that the family has the least amount of money left over.   [1]

(e)   *'What if'* investigations are an advantage of using a spreadsheet. Describe a 'what if' investigation which could be applied to this spreadsheet and what the result of this investigation would be.   [2]

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7.   Describe how **each** of the sensors listed below could be used in the home and/or garden. **Each** example must be *distinctly different.*   [4]

(i)   Temperature Sensor ....

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(ii)   Light Sensor ....

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(iii)   Movement Sensor ....

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(iv)   Pressure Sensor ....

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8. *Online shopping* is used by many people.

(a) Give **three** *advantages* of online shopping. [3]

Advantage 1: ....

Advantage 2: ....

Advantage 3: ....

(b) Give **two** *different* methods of finding products on an online shopping website. [2]

Method 1 ....

Method 2 ....

9. *(a)* *Management Information Systems (MIS)* are widely used in schools.

(i) Give a use for an MIS in a school. [1]

....

(ii) Give **one** *advantage* and **one** *disadvantage* of the use of an MIS in a school. [2]

Advantage ....

....

Disadvantage ....

....

(b) There are many different *input devices* and *software* available to support students with disabilities.

(i) List **three** *different* specialist input devices available to support students with disabilities. [3]

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....

....

(ii) Name **one** type of software and describe how it can support learners with disabilities. [2]

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....

10. Many people use ICT for home entertainment.

(a) (i) Name **two** *input devices* and **one** *output device* used in computer gaming. [3]

INPUT DEVICE 1 ....

INPUT DEVICE 2 ....

OUTPUT DEVICE 1 ....

(ii) Describe **two** *different* benefits of computer gaming. [2]

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(iii) Describe **two** *different* health issues associated with computer gaming. [2]

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(b) **Tick (✓)** to show your chosen form of home entertainment from the list below.

Tick (✓)

Social Networking ☐

Interactive Digital
Television ☐

Webcam
Services ☐

Describe **two** uses of your chosen home entertainment system and discuss the *advantages*
and *disadvantages* of the system to the user. [7]

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Turn over for Question 11.

11. A school is putting on a play.

Word Processing software is used to create letters that will be sent to parents to inform them of the dates of the production. State **five** *other different* types of software and for **each** software type, describe a *different* example of how the software could be used in organising the play.

[10]

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

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END OF PAPER

Question number	Additional page, if required. Write the question number(s) in the left-hand margin.

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