Surname	Centre Number	Candidate Number
Other Names		0

GCSE

4331/01

INFORMATION AND COMMUNICATION TECHNOLOGY
UNIT 1: UNDERSTANDING ICT
(SHORT COURSE) INFORMATION AND COMMUNICATION TECHNOLOGY
UNIT 1: UNDERSTANDING ICT

A.M. FRIDAY, 13 January 2012

1½ hours

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010001

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Total Marks	

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 in the spaces provided.*

1. Peter is organising a school fair. He can use several software packages to help him to do this.

(a) From the list below, select the most appropriate software package to do each of the following tasks by circling the correct letter in the boxes. [3]

A Presentation Software

B Database Software

C Data Logging Software

D Email Software

E Spreadsheet Software

The first one has been done for you.

Task	**Circle appropriate software**				
A multimedia presentation advertising the school fair.	**A**	**B**	**C**	**D**	**E**
Keeping details on all stall holders.	**A**	**B**	**C**	**D**	**E**
Keeping financial accounts of the fair.	**A**	**B**	**C**	**D**	**E**
Automatically counting how many cars enter the school.	**A**	**B**	**C**	**D**	**E**

(b) Peter used his *Desktop Publishing (DTP) software* to show where each stall is.

Stall Locations

Owner	**Stall Location**
John Davies	A12
Pat Arrowsmith	A23
Sally Brown	C23
Peter Powell	B43

Give **four** features of DTP software used to produce the document above. [4]

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2. **Tick (✓)** the appropriate box to show which of the following is data, which is information and which is knowledge. [4]

	DATA	INFORMATION	KNOWLEDGE
Your speed on the motorway is 100mph while the speed limit is 70mph - this means you are breaking the law	1	5	9
11 players make up a football team	2	6	10
100	3	7	11
2 011446 000019	4	8	12

3. *(a)* **Tick (✓)** which of the following statements about Bluetooth are **True** or **False**. [4]

Statements	True	False
Wires are needed to connect devices.	1	5
There are health concerns from using it.	2	6
It can be used over very long distances.	3	7
It has a relatively small bandwidth.	4	8

(b) A *Geographical Information System (GIS)* can be used to capture and display information. One use of GIS is to determine how far it is from one place to another.

Give **one** other use of GIS. [1]

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(c) Give **four** advantages of using *broadband* rather than *dialup* to access the Internet. [4]

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4. *(a)* **Tick (✓)** which **two** of the following are advantages to customers of online shopping. [2]

Home Shopping	Advantage
Can buy goods 24/7.	1 ☐
Wider range of goods to choose from.	2 ☐
Extra costs of postage and packing.	3 ☐
Always delivered on time.	4 ☐

(b) **Tick (✓)** to show which **three** of the following are methods of finding a shopping website on the Internet. [3]

	Tick (✓)
spellchecker	1 ☐
url	2 ☐
Internet service provider	3 ☐
search engine	4 ☐
hyperlink	5 ☐
electronic shopping basket	6 ☐

(c) Some online stores allow shoppers to download the goods they buy.
Give an example of what type of goods could be downloaded. [1]

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(d) Give **one** method of payment used to pay for goods over the Internet. [1]

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5. Many people use email.

(a) **Tick (✓)** which of the following statements about email are **True** or **False**. [3]

		True	False
(i)	Email can be used on many devices.	1	2
(ii)	Normal post is usually faster than email.	3	4
(iii)	Emails can be sent to several users at the same time.	5	6

(b) *Carbon copy* is one feature of email.

(i) Define what is meant by *carbon copy*. [1]

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(ii) Give different examples of how a teacher and a pupil might use *carbon copy*. [2]

Example of use by teacher .....

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Example of use by pupil .....

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(c) An *attachment* is another feature of email.

(i) Define what is meant by an *attachment*. [1]

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(ii) Give different examples of how a teacher and a pupil might use an *attachment*. [2]

Example of use by teacher .....

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Example of use by pupil .....

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6. A teacher has set up a spreadsheet to record examination results. Part of the spreadsheet is shown below.

	A	B	C	D	E	F	G
1	**Pass Mark**	50					
2	**Name**	**Maths**	**Pass or Fail**	**Science**	**Pass or Fail**	**English**	**Pass or Fail**
3	Begum D	36	Fail	99	Pass	34	Fail
4	Smith P	54	Pass	56	Pass	89	Pass
5	Connor T	36	Fail	99	Pass	25	Fail
6	Carter A	59	Pass	88	Pass	76	Pass
7	Powell B	87	Pass	38	Fail	34	Fail
8	**Subject Total**						
9	**Subject Average**						

(a) State the data in cell **B1**. [1]

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(b) Which of the following formulas could be used to give the **Subject Total** in cell **B8**? [1]

A =(B1+B2+B3+B4+B5+B6+B7)

B =(B3+B4+B5+B6)

C =SUM(B3:B7)

D =SUM(B2:B7)

(c) The cell **C3** contains the formula =IF(B3>=$B$1,"Pass","Fail").
Which **one** of the following formulas would you expect to be contained in cell **C4**? [1]

A =IF(B5>=$B$1,"Pass","Fail")

B =IF(B4>=$B$1,"Pass","Fail")

C =IF(B3>=$B$1,"Pass","Fail")

D =IF(B3>=B1,"Pass","Fail")

(d) **Tick (✓)** the correct box to show whether the following statements are **True** or **False**. [4]

Statement	True	False
Data in spreadsheets are always correct.	1	5
Spreadsheets automatically recalculate.	2	6
Spreadsheets cannot draw bar graphs.	3	7
You can lock some cells in a spreadsheet to prevent a user changing its contents.	4	8

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7. *(a)* A college has created an indoor 'rainforest'. The following sensors are being used to control the conditions in the rainforest. If a sensor detects a value that is too high it sends a value 1 to the computer.

Bit 1	**Bit 2**	**Bit 3**	**Bit 4**
temperature	light	humidity	moisture

The four bits are sent in the order shown above.

For each of the following describe the conditions in the rainforest when the following bit patterns are received. [3]

(i) 0000

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(ii) 1100

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(iii) 1111

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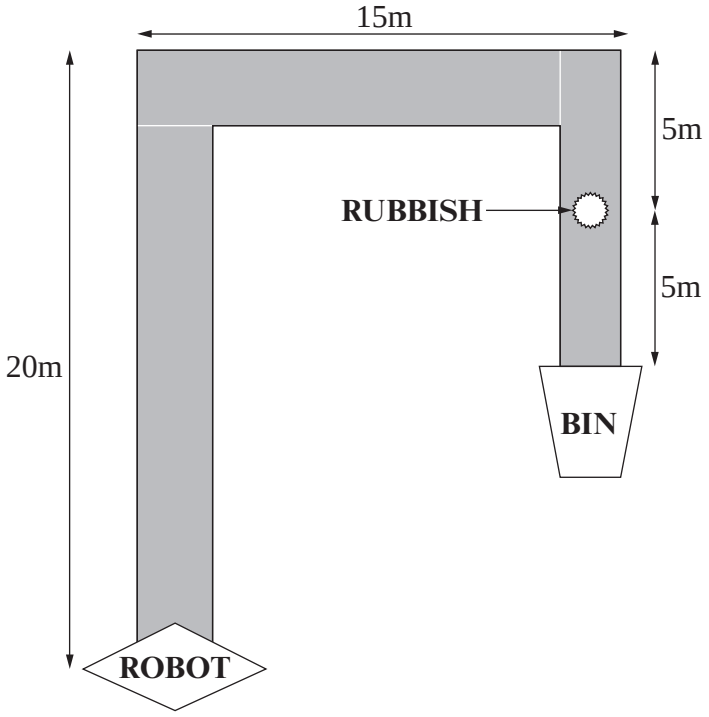
(b) The college uses a robot to teach computer control using the following instructions.

FWD n	Move forward n metres
BACK n	Move backwards n metres
LEFT t	Turn left t degrees
RIGHT t	Turn right t degrees
GRAB	Collect rubbish
RELEASE	Drop rubbish

Write a set of instructions to make the robot travel the walkway shown in the plan below, pick up the rubbish and drop it in the bin. [3]



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8. Computers can be used to support users with disabilities.

(a) Other than a standard keyboard and mouse, state **two** input devices which would be suitable for disabled users. [2]

INPUT DEVICE 1 .....

INPUT DEVICE 2 .....

(b) Users can customise their desktops. Give **two** ways that people with poor eyesight can customise their desktops. [2]

(i) .....

(ii) .....

9. A school football club keeps details of its members in a computer database.

Part of this database is shown below.

Membership Number	Name	House No.	Gender	Date Joined	Membership Fees Paid
2355	D. Davies	14	M	01/12/2006	Yes
2378	P. Collins	57	M	05/11/2009	Yes
2456	G. Parry	92	F	02/14/2010	Yes
2356	D. Evans	12	M	01/12/2006	Yes
2388	P. Cull	56	M	05/11/2009	No
2656	T. Parry	93	F	12/12/2010	Yes
2959	F. Khan	25	F	24/07/2005	No

(a) State the number of records shown. [1]

(b) Give the key field. [1]

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

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(d) The Gender field is coded. State **two** advantages of encoding data this way. [2]

Advantage 1 .....

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Advantage 2 .....

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(e) The club wants to find the female members who have paid their membership fees. Complete the table below to show how they can obtain this information from the database. [2]

Field Name	Operator	Search criteria
	=	

AND

Field Name	Operator	Search criteria
	=	

(f) The phrase *GIGO (Garbage In Garbage Out)* is often used when referring to data.

(i) Give an example of the error in the data shown opposite. [1]

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(ii) Describe how this error could have happened and describe a method of preventing this error. [3]

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(iii) One advantage of storing the data in a computer database is that it takes up less office space. Describe using examples, **two** *other* advantages to the club of using a computer to store the membership data. [4]

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10. State **one** electronic method of registering school pupils and give **two** advantages of such systems to the school. [3]

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11. Cinema tickets can be booked on line. Other than name and contact details give **four** important items of data required when booking a cinema ticket.

Discuss **four** advantages and **one** disadvantage of booking a cinema ticket online. [9]

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Question number	Write the question numbers in the left-hand margin

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Question number	Write the question numbers in the left-hand margin

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