

Surname	Centre Number	Candidate Number
Other Names		0



GCSE

4333/01

**INFORMATION AND
COMMUNICATION TECHNOLOGY**
UNIT 3: ICT in Organisations

A.M. WEDNESDAY, 22 January 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 page 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**.



Answer **all** questions.

1. Complete the following table by naming **four different** ICT devices used for input or output. For each device **tick (✓)** the correct box to show if the device is used for either *Input* or *Output*. *The first one has been completed for you.* [8]

Name of ICT Device	Input	Output
<i>Keyboard</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	1 <input type="checkbox"/>	2 <input type="checkbox"/>
	3 <input type="checkbox"/>	4 <input type="checkbox"/>
	5 <input type="checkbox"/>	6 <input type="checkbox"/>
	7 <input type="checkbox"/>	8 <input type="checkbox"/>



2. Image A and Image B shown below have been enlarged.

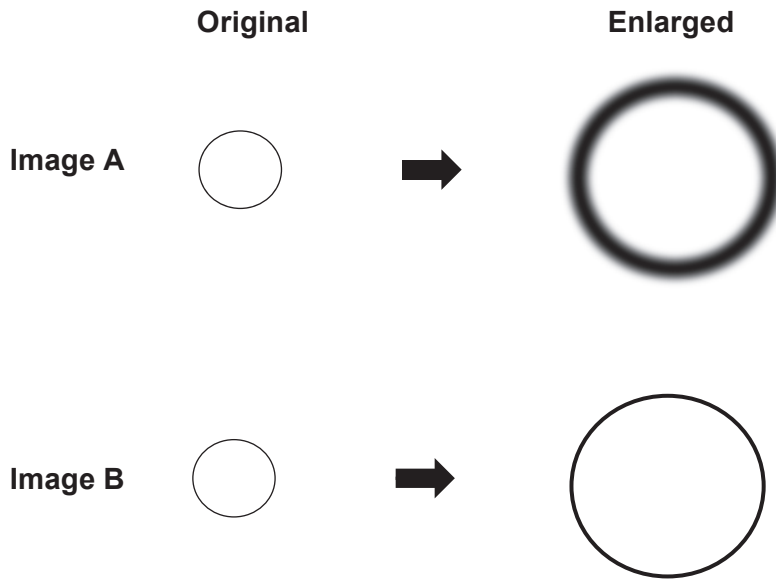


Image A has become blurred. The quality of Image B remains the same.

(a) Circle the name given to the types of graphical images shown above. [2]

Image A: Object Bitmap Vector GUI

Image B: Object Bitmap Vector GUI

(b) One effect of compressing images published on web pages is a reduced resolution. Name two other different effects of compressing a graphical image. [2]

Effect 1:

.....

.....

Effect 2:

.....

.....



3. LAN and WAN are two different types of computer network.

(a) (i) Write down what **LAN** stands for. [1]

.....
(ii) Write down what **WAN** stands for. [1]

.....

(b) (i) Give **two advantages** of networks over standalone computers. [2]

Advantage 1:

.....

.....

Advantage 2:

.....

.....

(ii) Give **one disadvantage** of networks over standalone computers. [1]

.....

.....

.....

(c) Complete the following sentence:

A closed private internet is called an [1]

(d) State the purpose of **each** of the network devices listed below. [2]

Gateway:

.....

.....

Bridge:

.....

.....



(e) Describe how a *switch* works in a computer network.

[2]

.....

.....

.....

.....

4. Many musicians use ICT.

(a) Describe **three advantages** to musicians of using *music composition software*.

[3]

.....

.....

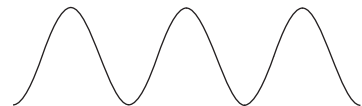
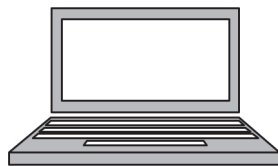
.....

.....

.....

.....

(b) Some signals from a computer need to be converted so they can be output. Complete the sentence below by crossing out the **incorrect** word in the boxes.



The digital analogue signals from a computer are converted to digital analogue signals to produce sound from the speaker.

[2]

4333
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5. (a) When producing an animation, animators often use key frame (flash) animation techniques such as *Tweening* and *Onion Skinning*.

(i) Describe, in detail, what is meant by *Tweening*. [3]

.....
.....
.....
.....
.....
.....

(ii) Describe what is meant by *Onion Skinning*. [2]

.....
.....
.....
.....

(b) Animators often experiment with different *frame rates* when creating an animation. Describe the effects that the following may have on the *quality* of an animation. [2]

Increasing the frame rate too much:

.....
.....

Decreasing the frame rate too much:

.....
.....

(c) Describe what is meant by *Persistence of Vision*. [1]

.....
.....
.....



6. Different *Verification* and *Validation* techniques are used to check data.

(a) Complete the following sentences about *Verification*, using only the words given below.

	Range	Parity	Double-keying
Format		Type	Visual
			Presence

(i) A check is when a user carefully reads what has been typed in and compares it with the original data source. [1]

(ii) A check ensures that the data sent is the same as the data received when data is transmitted from one computer to another. [1]

(iii) is used to check if you have entered your password correctly. [1]

(b) State the purpose of validation. [1]

.....

.....

.....

.....

(c) *Hash* and *Batch* totals are different types of validation techniques. Describe the difference between them. [2]

.....

.....

.....

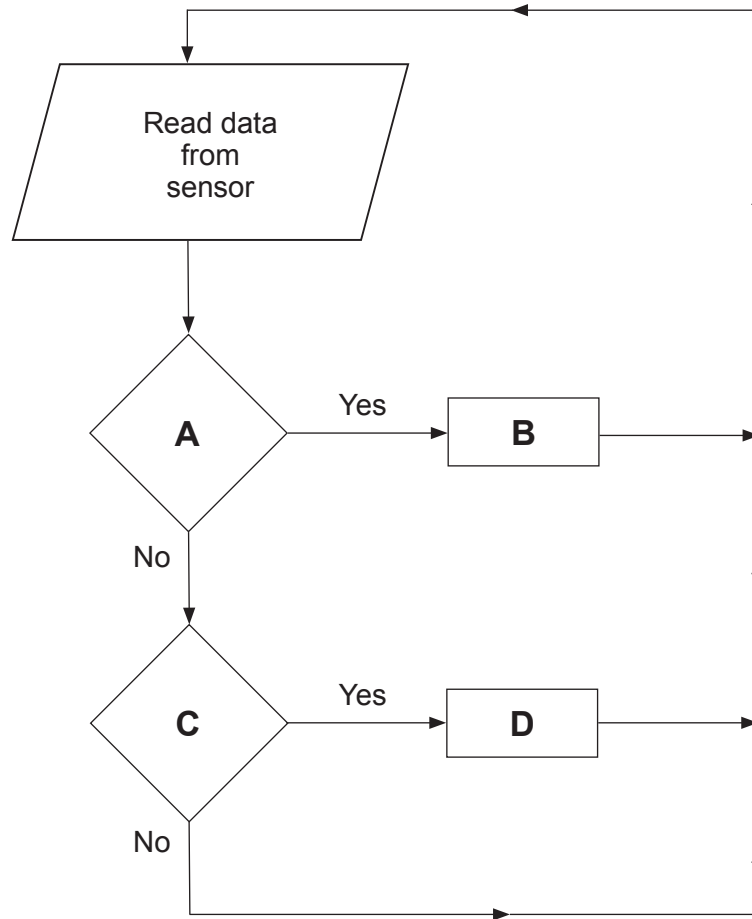
.....

.....

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7. The diagram below shows a computer control system in a greenhouse. The temperature is kept between 18°C and 22°C by two different output devices for optimum growing conditions.



- (a) Name the *sensor* and **two output devices** used in this control system. [3]

Sensor:

Output device 1:

Output device 2:



- (b) Complete the following table for this control system, giving a suitable process for the letters **B**, **C** and **D** labelled in the diagram opposite. Show how **both** output devices are used.

The process for the letter A has been completed for you.

[3]

A	Is the temperature above 22°C?
B	
C	
D	

- (c) State what is meant by *Feedback* in a computer control system.

[1]

.....

.....

.....



8. A variety of methods are used to prevent loss of data from a computer system.

(a) Give **one** physical method of securing data. [1]

.....
.....
.....

(b) The use of a *firewall* is one non-physical method of securing data. Give **two** other non-physical methods of securing data. [2]

Method 1:

.....
.....

Method 2:

.....
.....

9. Tick (✓) to show your chosen business application from the list below.

Tick (✓)

Banking

Expert system

E-commerce system

(a) Give **two** specific uses of ICT in your chosen application. [2]

Use 1:

.....
.....

Use 2:

.....
.....



(b) Give **two advantages** of using ICT for your chosen application. [2]

Advantage 1:
.....
.....

Advantage 2:
.....
.....

(c) Give **two disadvantages** of using ICT for your chosen application. [2]

Disadvantage 1:
.....
.....

Disadvantage 2:
.....
.....



10. A large organisation processes hundreds of timesheets in one go at the end of each week.

Weekly Employee Timesheet					
Employee ID: 11390		Name: <i>John Smith</i>		Hourly Rate: £7.50	
Date	Day	Start	Finish	Breaks	Total Hours
<i>30 December 2013</i>	Monday	<i>9.00</i>	<i>17.00</i>	<i>1</i>	<i>7</i>
<i>31 December 2013</i>	Tuesday	<i>8.30</i>	<i>16.00</i>	<i>1</i>	<i>6.5</i>
<i>1 January 2014</i>	Wednesday	<i>8.00</i>	<i>17.00</i>	<i>1</i>	<i>8</i>
<i>2 January 2014</i>	Thursday	<i>9.30</i>	<i>17.30</i>	<i>1</i>	<i>7</i>
<i>3 January 2014</i>	Friday	<i>9.00</i>	<i>18.00</i>	<i>2</i>	<i>7</i>
<i>4 January 2014</i>	Saturday	<i>10.00</i>	<i>12.30</i>	<i>0</i>	<i>2.5</i>
<i>5 January 2014</i>	Sunday	<i>10.00</i>	<i>11.30</i>	<i>0</i>	<i>1.5</i>
Total Hours Worked:					<i>39.5</i>
Gross Pay:					<i>£296.25</i>

- (a) State the **name** given to this application. [1]

.....

- (b) **Tick (✓)** the correct box to show which method of *data capture* could be used to input data from a timesheet into a computer. [1]

	Tick (✓)
OMR	<input type="checkbox"/>
OCR	<input type="checkbox"/>
MICR	<input type="checkbox"/>



(c) (i) **Tick (✓)** the correct box to show which processing method is normally used for this application. [1]

Tick (✓)

Real time transaction

1

Real time control

2

Batch

3

(ii) Give **one** reason why this processing method is used. [1]

.....
.....
.....

(d) This application uses a *master file* and a *transaction file*.

Give **one** item of data that would appear in **both** the *master file* and the *transaction file*. [1]

.....

(e) Other than the fields shown in the timesheet and contact details, list **three** fields which could be included in an employee's record for this application. [3]

Field 1:

Field 2:

Field 3:



11. (a) Tick (✓) the correct box to show which of the following statements apply to the Acts listed below. [3]

Statement	Computer Misuse Act	Electronic Communications Act	Copyright Act
Digital signatures are legally binding	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>
Deliberately introducing harmful viruses is illegal	4 <input type="checkbox"/>	5 <input type="checkbox"/>	6 <input type="checkbox"/>
Downloading some music files is illegal	7 <input type="checkbox"/>	8 <input type="checkbox"/>	9 <input type="checkbox"/>

(b) The *Data Protection Act (DPA)* has eight different principles. Two of them can be seen below:

- Data must not be transferred outside the EU to countries without adequate provision
- Data must be adequate, relevant, not excessive

State **two other** principles of the DPA. [2]

Principle 1:

.....
.....

Principle 2:

.....
.....

(c) State the main purpose of the *Regulation of Investigatory Powers Act 2000*. [1]

.....
.....
.....



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only

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Examiner
only

Area with horizontal dotted lines for writing.

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