



# Unit 1

GCSE ICT

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# Common topic areas

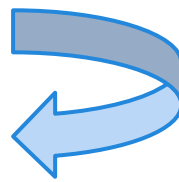
- [Data, information and knowledge](#) \*
- [Home entertainment](#) \*
- [Home and personal communications](#) \*
- [Online shopping](#) \*
- [Schools MIS](#)
- [ICT and learning](#)
- [Applications software](#) \*
- [Databases](#) \*
- [Email](#) \*
- [Spreadsheets](#) \*
- [Data logging and control](#)
- [Health issues](#)
- [Data Protection Act](#)






1

Data and quality of data

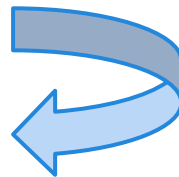


Tick (✓) the appropriate box to show which of the following is data, which is information and which is knowledge. [4]


	DATA	INFORMATION	KNOWLEDGE
Your speed on the motorway is 100mph while the speed limit is 70mph - this means you are breaking the law	1 <input type="checkbox"/>	5 <input type="checkbox"/>	9 <input type="checkbox"/>
11 players make up a football team	2 <input type="checkbox"/>	6 <input type="checkbox"/>	10 <input type="checkbox"/>
100	3 <input type="checkbox"/>	7 <input type="checkbox"/>	11 <input type="checkbox"/>
	4 <input type="checkbox"/>	8 <input type="checkbox"/>	12 <input type="checkbox"/>

Question 1

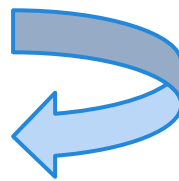




Tick (✓) the appropriate box to show which of the following is data, which is information and which is knowledge. [4]


	DATA	INFORMATION	KNOWLEDGE
Your speed on the motorway is 100mph while the speed limit is 70mph - this means you are breaking the law	1 <input type="checkbox"/>	5 <input type="checkbox"/>	<input checked="" type="checkbox"/>
11 players make up a football team	2 <input type="checkbox"/>	<input checked="" type="checkbox"/>	10 <input type="checkbox"/>
100	<input checked="" type="checkbox"/>	7 <input type="checkbox"/>	11 <input type="checkbox"/>
	<input checked="" type="checkbox"/>	8 <input type="checkbox"/>	12 <input type="checkbox"/>

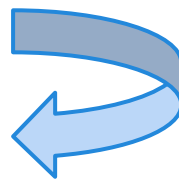
Answer 1



2. Complete the table below saying which is *data*, which is *information* and which is *knowledge*. [4]


**The first one is done for you.**

You were travelling at 31 mph and you have exceeded the 30 mile an hour speed limit	Knowledge
The Athlete who ran the race in 1 min and 15 seconds is the fastest	
	
1 min 20 seconds 1 min 15 seconds	
The athletes times are sorted into order 1 min 15 seconds 1 min 20 seconds	



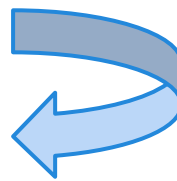
2. Complete the table below saying which is *data*, which is *information* and which is *knowledge*. [4]

**The first one is done for you.**

You were travelling at 31 mph and you have exceeded the 30 mile an hour speed limit	Knowledge
The Athlete who ran the race in 1 min and 15 seconds is the fastest	Knowledge
	data
1 min 20 seconds 1 min 15 seconds	data
The athletes times are sorted into order 1 min 15 seconds 1 min 20 seconds	information

Answer 2





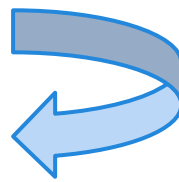
2. Write **one** letter, A, B, C or D from the words given in the list below to complete the following sentences:

Use each letter **only once**.

- A KNOWLEDGE
- B DATA LOGGING
- C INFORMATION
- D DATA

- (i) Sensors are used in school weather stations for  [1]
- (ii) Raw readings collected from sensors are called  [1]
- (iii) The readings are used to create a graph and this gives us  [1]
- (iv) When we apply rules to the processed weather readings we get  [1]

Question 3



2. Write **one** letter, A, B, C or D from the words given in the list below to complete the following sentences:

Use each letter **only once**.

- A KNOWLEDGE
- B DATA LOGGING
- C INFORMATION
- D DATA

(i) Sensors are used in school weather stations for

<sup>1</sup> B

[1]

(ii) Raw readings collected from sensors are called

<sup>2</sup> D

[1]

(iii) The readings are used to create a graph and this gives us

<sup>3</sup> C

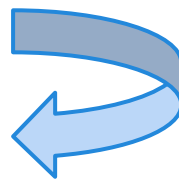
[1]

(iv) When we apply rules to the processed weather readings we get

<sup>4</sup> A

[1]

**Answer 3**

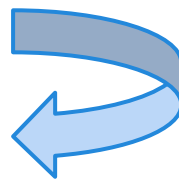


(b) Tick (✓) the correct box to show which of the following is *data*, which is *information* and which is *knowledge*. [3]

	DATA	INFORMATION	KNOWLEDGE
The highest recorded temperature was 21°C and this was the warmest day of the week.	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>
15°C, 14°C, 19°C, 20°C and 21°C.	4 <input type="checkbox"/>	5 <input type="checkbox"/>	6 <input type="checkbox"/>
15, 14, 19, 20, 21	7 <input type="checkbox"/>	8 <input type="checkbox"/>	9 <input type="checkbox"/>

Question 4

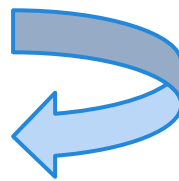




(b) Tick (✓) the correct box to show which of the following is *data*, which is *information* and which is *knowledge*. [3]

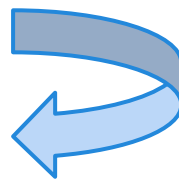
	DATA	INFORMATION	KNOWLEDGE
The highest recorded temperature was 21°C and this was the warmest day of the week.	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input checked="" type="checkbox"/> 3
15°C, 14°C, 19°C, 20°C and 21°C.	<input type="checkbox"/> 4	<input checked="" type="checkbox"/> 5	<input type="checkbox"/> 6
15, 14, 19, 20, 21	<input checked="" type="checkbox"/> 7	<input type="checkbox"/> 8	<input type="checkbox"/> 9

Answer 4



2. Tick (✓) the correct box to show which of these items is *data*, *information* or *knowledge*. [3]

Description of item	Data	Information	Knowledge
The swimmer who swam the race in 27 seconds was the fastest and won the race.	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>
27 seconds.	4 <input type="checkbox"/>	5 <input type="checkbox"/>	6 <input type="checkbox"/>
27, 35, 55.	7 <input type="checkbox"/>	8 <input type="checkbox"/>	9 <input type="checkbox"/>

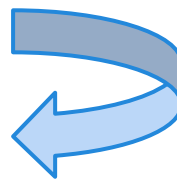


2. Tick (✓) the correct box to show which of these items is *data*, *information* or *knowledge*. [3]

Description of item	Data	Information	Knowledge
The swimmer who swam the race in 27 seconds was the fastest and won the race.	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input checked="" type="checkbox"/> 3
27 seconds.	<input type="checkbox"/> 4	<input checked="" type="checkbox"/> 5	<input type="checkbox"/> 6
27, 35, 55.	<input checked="" type="checkbox"/> 7	<input type="checkbox"/> 8	<input type="checkbox"/> 9



Pupil No	Name	Activity	Gender	Fitness test score	Date of Birth
474	Davies S	Rugby	M	6	12/12/94
387	Khan S	Running	F	11	04/09/95
210	Jones R	Aerobics	M	10	00/13/96
109	Robolski A	Rugby	M	12	15/09/94
078	Evans L	Running	F	13	17/04/96
321	Jones W	Running	M	9	04/07/96
045	Begum T	Aerobics	F	7	04/06/95
029	Smith R	Running	F	8	11/11/94
607	Adams Y	Rugby	F	5	19/03/95



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

- (i) Give an example of GIGO from the fitness database shown on the previous page. [1]

.....

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

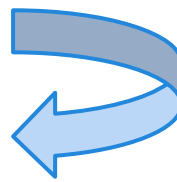
.....

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.....

.....

Pupil No	Name	Activity	Gender	Fitness test score	Date of Birth
474	Davies S	Rugby	M	6	12/12/94
387	Khan S	Running	F	11	04/09/95
210	Jones R	Aerobics	M	10	00/13/96
109	Robolski A	Rugby	M	12	15/09/94
078	Evans L	Running	F	13	17/04/96
321	Jones W	Running	M	9	04/07/96
045	Begum T	Aerobics	F	7	04/06/95
029	Smith R	Running	F	8	11/11/94
607	Adams Y	Rugby	F	5	19/03/95



- (e) The phrase GIGO (Garbage In Garbage Out) is often used when referring to data.
- (i) Give an example of GIGO from the fitness database shown on the previous page. [1]  
 ..... 00/13/96 or explanation of it. NOT just 'Date of Birth'.  
 .....
- (ii) Describe how this mistake could have happened and describe a method of preventing the mistake. [3]  
 ..... Typed in 00/13 not 01/03 or transposition error  
 ..... or transcription error.  
 ..... Prevention: Range check or checks that numbers  
 ..... are between a two set numbers.  
 .....

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

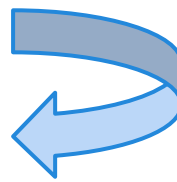
The Gender field is coded. State **two** advantages of encoding data this way. [2]

**Advantage 1** .....

.....

**Advantage 2** .....

.....



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

Part of this database is shown below.

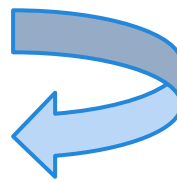
Membership Number	Name	House No.	Gender	Date Joined	Membership Fees Paid
2355	D. Davies	14	M	01/12/2006	Yes
2378	P. Collins	57	M	05/11/2009	Yes
2456	G. Parry	92	F	02/14/2010	Yes
2356	D. Evans	12	M	01/12/2006	Yes
2388	P. Cull	56	M	05/11/2009	No
2656	T. Parry	93	F	12/12/2010	Yes
2959	F. Khan	25	F	24/07/2005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

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

Advantage 1 **Faster to enter data** .....

Advantage 2 **Saves memory/storage space** .....

Answer 1





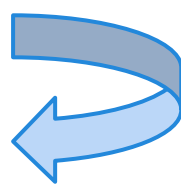


2

Home entertainment

- (a) Tick (✓) the correct box to show which of the following is used for input, output or storage. The first one has been done for you. [4]

	Input	Output	Storage
Gamepad	✓		
Joystick			
Monitor			
Memory card			
Speakers			



- (b) Computer games are used for home entertainment.

- (i) Give **two** advantages of playing computer games. [2]

.....

.....

.....

.....

- (ii) *Other than health problems*, give **two** disadvantages of playing computer games. [2]

.....

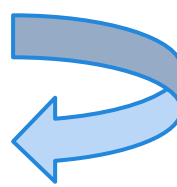
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Questio



- (a) Tick (✓) the correct box to show which of the following is used for input, output or storage. The first one has been done for you. [4]

	Input	Output	Storage
Gamepad	✓		
Joystick	x		
Monitor		x	
Memory card			x
Speakers		x	



- (b) Computer games are used for home entertainment.

- (i) Give two advantages of playing computer games. [2]

1. Some games are educational, which make learning enjoyable and fun.

2. Entertaining

- (ii) Other than health problems, give two disadvantages of playing computer games. [2]

1. Some games are violent.

2. Can be addictive.

Answer

10. ICT is used for home entertainment.

(a) Give **two** interactive services available through digital TV. [2]

.....

.....

(b) (i) *Other than updating your status, give two different uses of social networking for home entertainment.* [2]

.....

.....

(ii) Give **one** reason why you should **not** give away personal details on a social networking account. [1]

.....

.....

.....

(c) (i) Explain what is meant by the term *webcam*. [1]

.....

.....

(ii) Give **one advantage** and **one disadvantage** of using a webcam. [2]

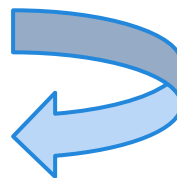
Advantage .....

.....

Disadvantage .....

.....

Question



10. ICT is used for home entertainment.

(a) Give **two** interactive services available through digital TV. [2]

1. Voting.

2. Shopping

(b) (i) *Other than updating your status, give two different uses of social networking for home entertainment.* [2]

Instant messaging

(ii) Give **one** reason why you should **not** give away personal details on a social networking account. [1]

Paedophiles

(c) (i) Explain what is meant by the term *webcam*. [1]

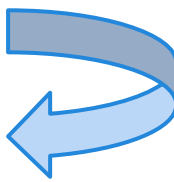
A (digital) camera used to capture still images and video images on the Internet

(ii) Give **one** *advantage* and **one** *disadvantage* of using a webcam. [2]

Advantage talk to people online using real time video

Disadvantage Paedophiles can capture images

Answer :



7. ICT is widely used for home entertainment.

(a) Give **three** *different* ways that a photo can be manipulated using photo editing software. [3]

.....

.....

.....

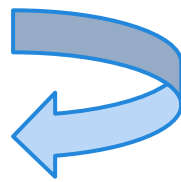
(b) (i) A webcam could be used to keep in touch with friends and family around the world. Give another example of how a webcam could be used. [1]

.....

.....

(ii) Give a disadvantage of using a webcam. [1]

.....



7. ICT is widely used for home entertainment.

(a) Give **three** *different* ways that a photo can be manipulated using photo editing software.

[3]

Add text.

Cropping.

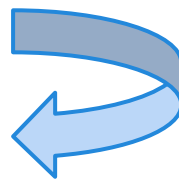
Brush tool.

(b) (i) A webcam could be used to keep in touch with friends and family around the world.  
Give another example of how a webcam could be used. [1]

Viewing a place anywhere in the world.

(ii) Give a disadvantage of using a webcam. [1]

Can record without you knowing.



(c) (i) State **two** items of information required to create a social networking account. [2]

.....

.....

(ii) Social networking sites allow you to upload photographs. State **two** other *different* services of social networking. [2]

.....

.....

(iii) Describe **two** disadvantages of social networking. [2]

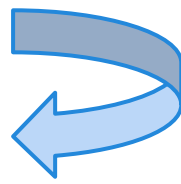
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#### Question 4



- (c) (i) State **two** items of information required to create a social networking account. [2]  
Name .

.....  
Date of birth.  
.....

- (ii) Social networking sites allow you to upload photographs. State **two** other *different* services of social networking. [2]

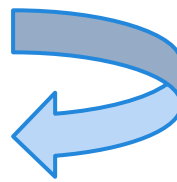
Instant messaging.

.....  
Playing games.  
.....

- (iii) Describe **two** disadvantages of social networking. [2]

Paedophiles can use the network to target victims.

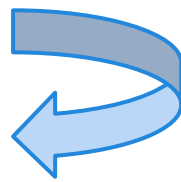
.....  
Identity theft could occur and lead to fraud.  
.....  
.....  
.....  
.....





3

Home and personal communications



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

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.....

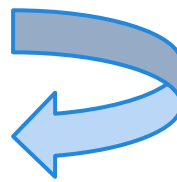
.....

.....

.....

.....

Question 1



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

.....  
It always connected.

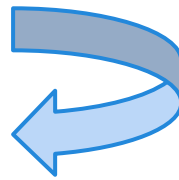
.....  
It has a faster connection speed than

.....  
dialup or mobile.

.....  
You can use the telephone at the same.

.....  
time. You can stream video in real time.

Answer 1



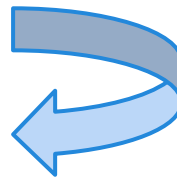
(b) A *Geographical Information System (GIS)* can be used to capture and display information. One use of GIS is to determine how far it is from one place to another.

Give **one** other use of GIS.

[1]

.....

.....



(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]

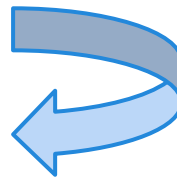
Gives directions from position A to B

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Answer 1



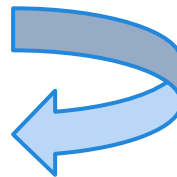


(a) Tick (✓) which of the following statements about Bluetooth are **True** or **False**.

[4]

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

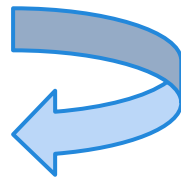
Question 2



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

Statements	True	False
Wires are needed to connect devices.	<input type="checkbox"/>	<input checked="" type="checkbox"/>
There are health concerns from using it.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
It can be used over very long distances.	<input type="checkbox"/>	<input checked="" type="checkbox"/>
It has a relatively small bandwidth.	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Answer 2



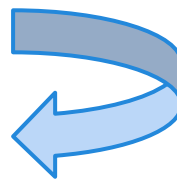
(a) Describe how the following new technologies would be of benefit to the home user. [4]

**Broadband** .....

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

**Wireless** .....

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

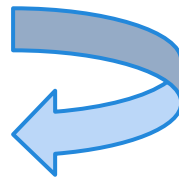


(a) Describe how the following new technologies would be of benefit to the home user. [4]

**Broadband** Faster downloads.

Allows home users to download music and video files quickly and to stream video from the internet.

**Wireless** No cables. This keeps the desktop tidier along with being safer (less things to trip over).



(b) Other than a computer, state the *specific* extra hardware needed for video conferencing. [2]

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(c) Describe, using suitable different examples, the benefits video conferencing can bring to the home user. [4]

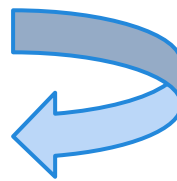
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(b) Other than a computer, state the *specific* extra hardware needed for video conferencing. [2]

Web cam, microphone, speakers, broadband.

(c) Describe, using suitable different examples, the benefits video conferencing can bring to the home user. [4]

Keep in contact with families abroad or people with

mobility issues.

People can also use it for distance learning, where teachers and learners are in different places.



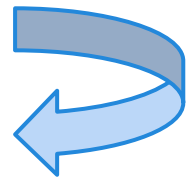
(c) *Other than playing games, state one use of Bluetooth connectivity on mobile phones for home entertainment.* [1]

.....

.....

(d) **Wireless broadband connection has had a big impact on home entertainment. Give one advantage of a wireless connection in the home.** [1]

.....



(c) *Other than playing games*, state **one** use of Bluetooth connectivity on mobile phones for home entertainment. [1]

Can share media (such as photos or video)

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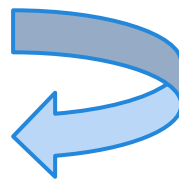
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(d) Wireless broadband connection has had a big impact on home entertainment. Give **one** advantage of a wireless connection in the home. [1]

No wires - reduced trip hazard

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

Statements	True	False
You can see an aerial view of your school.		
Sometimes the information about routes on a GIS is out of date.		
All mobile phones have a built in GIS feature.		
GIS can determine the distance from one place to another.		

- (b) Mobile phones use Bluetooth technology. Give **one advantage** and **one disadvantage** to the **user** of using Bluetooth connectivity. [2]

**Advantage** .....

.....

**Disadvantage** .....

.....

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

Statements	True	False
You can see an aerial view of your school.	x	
Sometimes the information about routes on a GIS is out of date.	x	
All mobile phones have a built in GIS feature.		x
GIS can determine the distance from one place to another.	x	

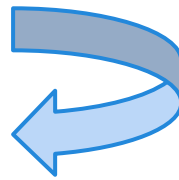
- (b) Mobile phones use Bluetooth technology. Give **one advantage** and **one disadvantage** to the **user** of using Bluetooth connectivity. [2]

Advantage ..... wireless, so no trip hazard

.....

Disadvantage ..... short distance range

.....



3. Give **two** advantages and **two** disadvantages of using *Geographical Information Systems (GIS)* for navigation. [4]

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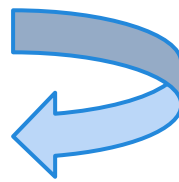
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3. Give **two** advantages and **two** disadvantages of using *Geographical Information Systems (GIS)* for navigation. [4]

.....  
Can select/plan the shortest route to save money.

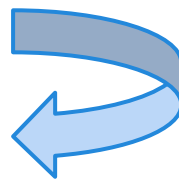
Plan routes from A to B.  
.....  
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.....  
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4

Online shopping





A web designer created a website for a retail company.

- (a) Give **two** different ways to find the website on the internet. [2]

.....

- (b) Customers can buy the company's products online (*online shopping*).

*Other than being able to shop from home, give **two** other advantages for the customer of buying products online.* [2]

**Advantage 1** .....

.....

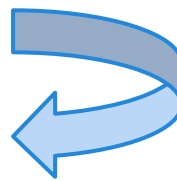
**Advantage 2** .....

.....

- (c) Give **one** reason why *environmental groups* might be concerned about the growth of *online shopping*. [1]

.....

.....



A web designer created a website for a retail company.

- (a) Give **two** different ways to find the website on the internet. [2]

Search engine

Type the URL

- (b) Customers can buy the company's products online (*online shopping*).

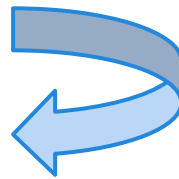
*Other than being able to shop from home, give two other advantages for the customer of buying products online.* [2]

Advantage 1 Shop 24/7 / 365 days a year, where shops often  
close on certain days.

Advantage 2 Wider selection of goods available

- (c) Give **one** reason why *environmental groups* might be concerned about the growth of *online shopping*. [1]

Increased traffic due to delivery trucks leading to  
increase in pollution.



(d) Describe in detail **one** disadvantage *to the company* of having an online shopping service. [2]

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(e) *Other than for advertising its products and online shopping*, give **three** different potential uses of a company's website. [3]

**Use 1**

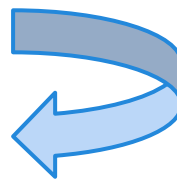
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**Use 2**

---

**Use 3**

---



- (d) Describe in detail **one** disadvantage *to the company* of having an online shopping service. [2]

Potentially, when business go online - there is an opportunity for online fraud to take place. This could lose business and result in a bad reputation.

- (e) *Other than for advertising its products and online shopping*, give **three** different potential uses of a company's website. [3]

Use 1

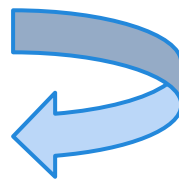
Email enquiries can be sent through website.

Use 2

Order tracking.

Use 3

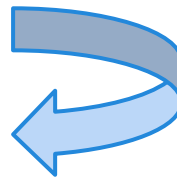
Customer feedback about products.



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

	Tick (✓)
spellchecker	1 <input type="checkbox"/>
url	<input type="checkbox"/>
Internet service provider	3 <input type="checkbox"/>
search engine	<input type="checkbox"/>
hyperlink	<input type="checkbox"/>
electronic shopping basket	6 <input type="checkbox"/>

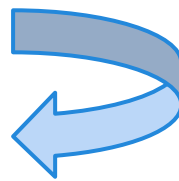
Question 3



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

	Tick (✓)
spellchecker	<input type="checkbox"/>
url	<input checked="" type="checkbox"/>
Internet service provider	<input type="checkbox"/>
search engine	<input checked="" type="checkbox"/>
hyperlink	<input checked="" type="checkbox"/>
electronic shopping basket	<input type="checkbox"/>

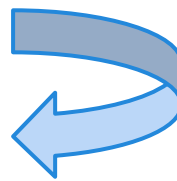
Answer 3



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

Home Shopping	Advantage
Can buy goods 24/7.	1 <input type="checkbox"/>
Wider range of goods to choose from.	2 <input type="checkbox"/>
Extra costs of postage and packing.	3 <input type="checkbox"/>
Always delivered on time.	4 <input type="checkbox"/>



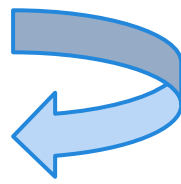


(a) Tick (✓) which two of the following are advantages to customers of online shopping. [2]

Home Shopping	Advantage
Can buy goods 24/7.	<input checked="" type="checkbox"/>
Wider range of goods to choose from.	<input checked="" type="checkbox"/>
Extra costs of postage and packing.	<input type="checkbox"/>
Always delivered on time.	<input type="checkbox"/>

Answer 4

(a) Tick (✓) the correct boxes to show whether the following statements about online shopping are *advantages* or *disadvantages* to the customer. [5]



Statements	Advantage	Disadvantage
Allows disabled people to shop from home.	1 <input type="checkbox"/>	2 <input type="checkbox"/>
Wider choice of goods available.	3 <input type="checkbox"/>	4 <input type="checkbox"/>
You cannot check the quality of goods before purchasing.	5 <input type="checkbox"/>	6 <input type="checkbox"/>
Saves the cost of travelling to the shop.	7 <input type="checkbox"/>	8 <input type="checkbox"/>
Credit card information may be misused.	9 <input type="checkbox"/>	10 <input type="checkbox"/>

(b) Give **one** *advantage* and **one** *disadvantage* to a **company** of online shopping. [2]

**Advantage to company** .....

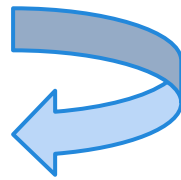
.....  
 .....

**Disadvantage to company** .....

.....

Question

(a) Tick (✓) the correct boxes to show whether the following statements about online shopping are *advantages* or *disadvantages* to the customer. [5]



Statements	Advantage	Disadvantage
Allows disabled people to shop from home.	1 <input checked="" type="checkbox"/>	2 <input type="checkbox"/>
Wider choice of goods available.	3 <input checked="" type="checkbox"/>	4 <input type="checkbox"/>
You cannot check the quality of goods before purchasing.	5 <input type="checkbox"/>	6 <input checked="" type="checkbox"/>
Saves the cost of travelling to the shop.	7 <input checked="" type="checkbox"/>	8 <input type="checkbox"/>
Credit card information may be misused.	9 <input type="checkbox"/>	10 <input checked="" type="checkbox"/>

(b) Give **one** *advantage* and **one** *disadvantage* to a **company** of online shopping. [2]

Advantage to company ..... Can reach customers 24/7.

.....

Answer !

Disadvantage to company ..... Could get hacked and then lose customers.

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]

.....

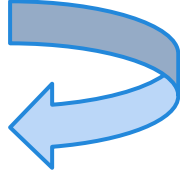
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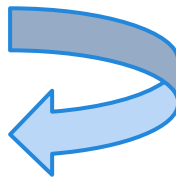
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Cinema tickets can be booked on line. Other than name and contact details give **four** important items of data required when booking a cinema ticket.

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



The cinema will require Date of performance, Time of performance, Seat number and Film.

Four advantages:

The customer can read reviews about the film online prior to booking.

The customer can look to see which seats are available and pick the preferred seat from a chart.

It is more convenient for disabled people to book online as they don't have to travel.

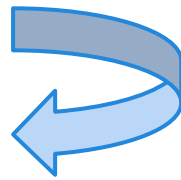
Booking online will sometimes give special offers.

One disadvantage:

Online fraud could take place resulting in the customer losing money.

**Answer 1**

10. Concert tickets can be booked on-line from home.



**Music Tickets**

---

Please enter your details below:


First Name

Last Name

Email Address

Please re-enter your email address

**NEXT**



(a) Other than personal/contact details, give **two other** essential items of data the company would store on their on-line booking system. [2]

.....

.....

(b) (i) Give **two** advantages to the *customer* of using an on-line booking system. [2]

Advantage 1 .....

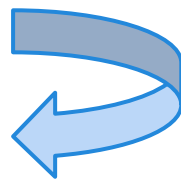
.....

Advantage 2 .....

.....

Question :

10. Concert tickets can be booked on-line from home.



## Music Tickets

---

Please enter your details below:


First Name

Last Name

Email Address

Please re-enter your email address

**NEXT**



(a) *Other than personal contact details, give two other essential items of data the company would store on their on-line booking system.* [2]

1. credit card details.

2. Number of tickets required.

(b) (i) Give two advantages to the *customer* of using an on-line booking system. [2]

Advantage 1 Can book 24/7

Advantage 2 Can compare prices online before booking.

Answer:



Statements
Allows disabled people to shop from home.
Wider choice of goods available.
You cannot check the quality of goods before purchasing.
Saves the cost of travelling to the shop.
Credit card information may be misused.

Advantage

Disadvantage

1

2

3

4

5

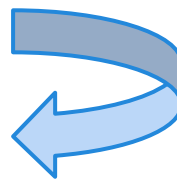
6

7

8

9

10



(b) Give **one advantage** and **one disadvantage** to a **company** of online shopping. [2]

**Advantage to company** .....

.....

.....

**Disadvantage to company** .....

.....

.....

**Question 3**

(c) Give **one method** of finding products on a *website*. [1]

.....

Statements
Allows disabled people to shop from home.
Wider choice of goods available.
You cannot check the quality of goods before purchasing.
Saves the cost of travelling to the shop.
Credit card information may be misused.

Advantage

Disadvantage

1 x

2

3 x

4

5

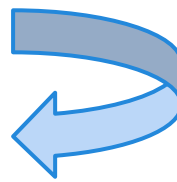
6 x

7 x

8

9

10 x



(b) Give **one advantage** and **one disadvantage** to a **company** of online shopping. [2]

**Advantage to company** ..... Can reach customers 24/7.

**Disadvantage to company** ..... Extra costs to maintain and update the website.

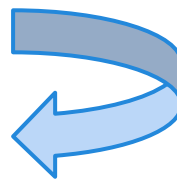
Answer 3

(c) Give **one method** of finding products on a *website*. [1]

Hyperlink.

(b) State an advantage to the customer of booking tickets online.

[1]



.....

.....

(c) When creating an account with a company you will be asked to verify the information you have entered is correct. State **two** *different* ways that the information can be verified. [2]

1. ....

2. ....

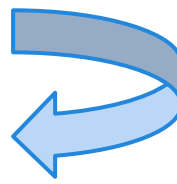
(b) State an advantage to the customer of booking tickets online.

[1]

Can book 24/7.

---

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(c) When creating an account with a company you will be asked to verify the information you have entered is correct. State **two different** ways that the information can be verified. [2]

1. Double entry (like passwords usually do).

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2. Visual check (reading it over).

---

11. E-commerce (Online shopping) is used by many people. Give **three different** methods of finding products **on** an e-commerce website and describe advantages and disadvantages to the *customer* of online shopping. [13]

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

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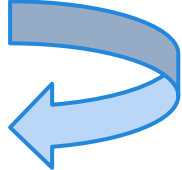
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11. E-commerce (Online shopping) is used by many people. Give **three different** methods of finding products **on** an e-commerce website and describe advantages and disadvantages to the *customer* of online shopping. [13]

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

.....  
Search Box to enter key word searches

.....  
Hyperlinks

.....  
Drop down menus

.....  
Advantages:

.....  
Ability to order goods 24/7

.....  
Cost savings are passed to customers with online deals

.....  
Allows disabled people to do their own shopping

.....  
Saves travel time

.....  
Saves travel costs

.....  
Greater choice of goods from a global marketplace

.....  
Price comparisons

.....  
Read reviews

.....  
Disadvantages for the customer

.....  
Problems with fraudulent sites

.....  
Harder to assess the quality of goods before ordering

.....  
Loss of the social pleasure of shopping

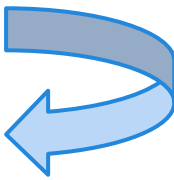
.....  
Hidden costs of postage or duties

.....  
Customers worried about security of credit / debit card details

.....  
Could download a virus when downloading a music file

.....  
Getting an increase in spam email

Answer



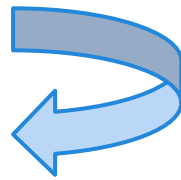




5

Organisations: School, Home and Environment





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

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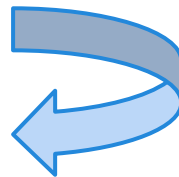
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Question 1



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

Teachers could use a PC to register pupils.

It could be used to work out patterns of attendance very

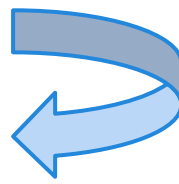
quickly.

It can also be used to provide different reports quickly.

Answer 1



12. Name **three** different *electronic methods* of registering pupil's attendance in school. For each method, describe how data is captured and give different advantages or disadvantages for these methods. [9]



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

1. Biometric Methods (i.e. thumb scanner used to capture information as pupil enters room)

Advantage: Unique to each pupil.

Disadvantage: Expensive to install.

2. Computer Registration (data entry into an MIS system directly by teacher)

Advantage: Can be accessed by all teaching staff immediately.

Disadvantage: Takes up teacher time.

3. Swipe cards (cards are swiped through a reader as pupils enter room)

Advantage: Can be used for many other school facilities - e.g. library, canteen and access to buildings.

Disadvantage: Can be used by pupil's friends to swipe them in

7. Biometrics can be used in school to register students. Give **two** *advantages* and **one** *disadvantage* of this method. [3]

.....

.....

.....

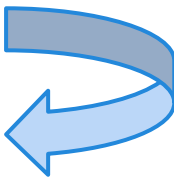
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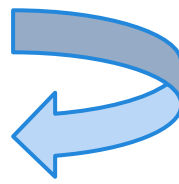
7. Biometrics can be used in school to register students. Give **two advantages** and **one disadvantage** of this method. [3]

Advantages:

1. Unique to each student.
2. Cannot forget like a card.

Disadvantage:

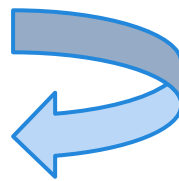
1. Expensive to install





7

ICT & learning



Many educational programs used in schools have a Graphical User Interface (GUI).

- (i) Give **two** features of a Graphical User Interface. [2]

.....

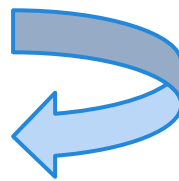
- (ii) Give **one** advantage of a Graphical User Interface for educational programs. [1]

.....

.....







- (e) *Other than computer networks, monitors and printers, give two other ICT devices and describe in detail how each could be specifically used in schools to help in teaching and learning.* [2 × 2]

**Do not give the same use twice.**

**Device 1** .....

**Use in teaching and learning** .....

.....

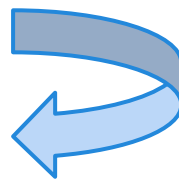
.....

**Device 2** .....

**Use in teaching and learning** .....

.....

.....



- (e) *Other than computer networks, monitors and printers, give two other ICT devices and describe in detail how each could be specifically used in schools to help in teaching and learning.* [2 × 2]

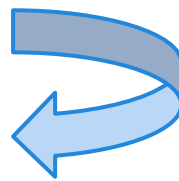
**Do not give the same use twice.**

**Device 1** Interactive white board

**Use in teaching and learning** Teacher can move objects with it  
from the front of the classroom.

**Device 2** Voting systems

**Use in teaching and learning** Teacher can set questions and quiz  
pupils about topics.



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]

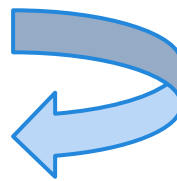
INPUT DEVICE 1 .....

INPUT DEVICE 2 .....

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

(i) .....

(ii) .....



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 Braille keyboard

INPUT DEVICE 2 Microphone

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

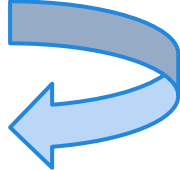
(i) larger icons

(ii) large fonts

11. Virtual Learning Environments (VLEs) are used in schools.

Give **three** uses of a VLE by teachers or students.

[3]



Use 1 .....

.....

Use 2 .....

.....

Use 3 .....

.....

11. Virtual Learning Environments (VLEs) are used in schools.

Give **three** uses of a VLE by teachers or students.

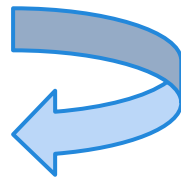
[3]

Use 1 ..... Teachers can upload content - Presentations, assignments,

..... revision, lesson plans to support other teachers.

Use 2 ..... Homework can be set and received.

Use 3 ..... Tracking Teacher can use log to track pupil work record

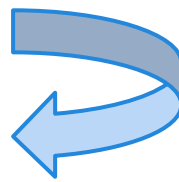






11. Online Tutorials and Online Assessment are ways in which ICT is used in education.

- (i) Name and describe how **four** specific but *different* features of Online Tutorials and Assessment are used in education. [4]



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

1. Automatic marking: Giving instant feedback to pupils.

2. Video: To show a dangerous science experiment to pupils

whilst they are in a safe environment.

3.VLE: pupils can submit their work electronically for their

teacher to mark.

4.Email: Communication between teachers and students -  
allowing discussion

(ii) Discuss the general advantages and disadvantages of Online Tutorials and Assessment. [8]

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

.....

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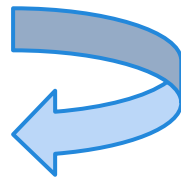
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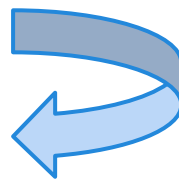
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(ii) Discuss the general advantages and disadvantages of Online Tutorials and Assessment. [8]



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

Advantages:

Students can work at own pace.

Can access from any device with Internet anywhere.

24/7.

Disadvantages:

expensive to purchase.

Staff training.

Might not explain subject as well as a teacher

8. A school makes use of ICT to support teaching and learning.

(a) A school makes use of a Virtual Learning Environment (VLE) to allow students to be assessed using tests. Describe **two other** ways students can make use of a VLE. [2]

.....

.....

.....

.....

(b) Describe **three different** ways that a computer desktop can be customised to help students with disabilities. [3]

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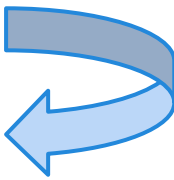
.....

(c) Describe an emerging technology that helps students learn. [2]

.....

.....

Questio



8. A school makes use of ICT to support teaching and learning.

- (a) A school makes use of a Virtual Learning Environment (VLE) to allow students to be assessed using tests. Describe **two other** ways students can make use of a VLE. [2]

Students can access material uploaded by teachers.

Students can submit work electronically to be marked

- (b) Describe **three different** ways that a computer desktop can be customised to help students with disabilities. [3]

Magnify text (to make the writing easier to read).

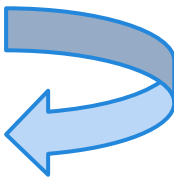
Enlarging icons (to make the icons easier to see).

Voice recognition (so voice commands can control the PC).

- (c) Describe an emerging technology that helps students learn. [2]

Educational 'apps' to help you learn French for smart phones

Answer

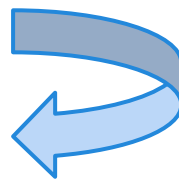




8

Applications software



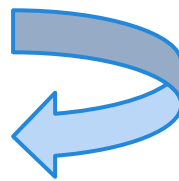


- (c) Other than DTP software, complete the table below by giving **three** types of software and an example of how each type of software could be used in the running of an estate agent's business. Give distinctly different examples in each case.

The first one has been done for you.

[3 × 2]

<i>Type of software</i>	<i>Use in an estate agent's business</i>
<i>Spreadsheet</i>	<i>To work out the profit and loss accounts for the business.</i>



- (c) *Other than DTP software*, complete the table below by giving **three** types of software and an example of how each type of software could be used in the running of an estate agent's business. Give distinctly different examples in each case.

The first one has been done for you.

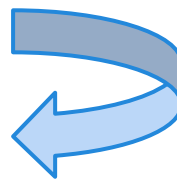
[3 × 2]


<i>Type of software</i>	<i>Use in an estate agent's business</i>
<i>Spreadsheet</i>	<i>To work out the profit and loss accounts for the business.</i>
Database	Store details of houses or buyers/customers
Presentation software	Make a presentation to advertise houses
Word processing	Letters confirming sale , for use in mail merging

Answer 1



(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

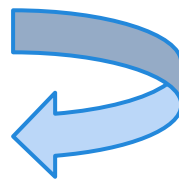
Give **four** features of DTP software used to produce the document above.


.....

.....

Question 2

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



***Stall Locations*** 

<b>Owner</b>	<b>Stall Location</b>
John Davies	A12
Pat Arrowsmith	A23
Sally Brown	C23
Peter Powell	B43

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

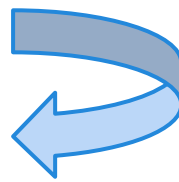
[4]

Clip Art

borders

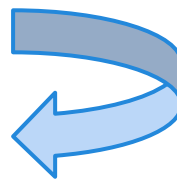
Table

Bold Font



- (c) Complete the table below by giving a suitable example of how **each** of the following could be used in the school.  
Give distinctly different examples in **each** case. [3]

	Example of use in school
Database	
OMR (Optical mark recognition)	
Distance learning	




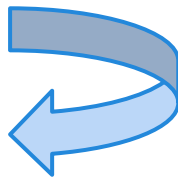
- (c) Complete the table below by giving a suitable example of how **each** of the following could be used in the school.  
Give distinctly different examples in **each** case. [3]

	Example of use in school
Database	Records of pupil information such as attendance and achievement.
OMR (Optical mark recognition)	Class registration.
Distance learning	Access to VLE for quizzes and teachers presentation.

**School Fundraiser**

Sponsor's Name	Amount	Paid?



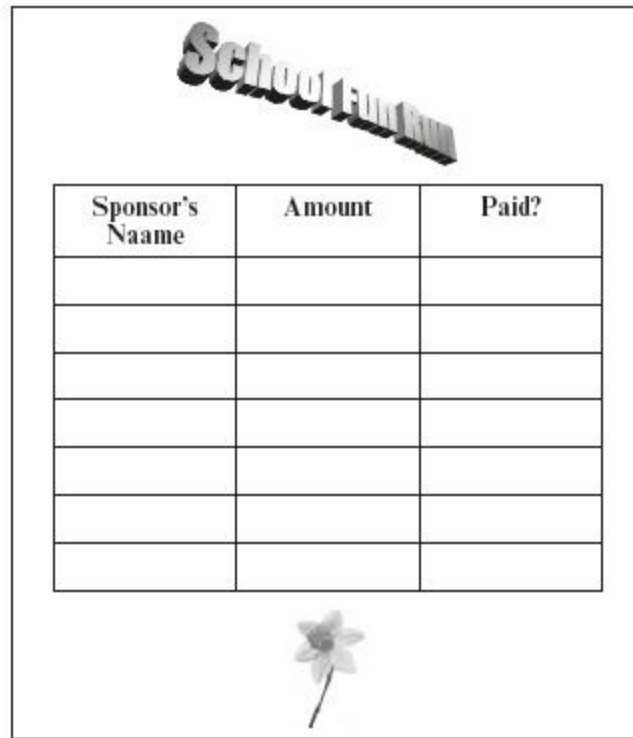


- (a) Tick (✓) the **three** correct boxes to show which features of word processing software have been used on this sponsor form. [3]

	Tick (✓)
Bullet points	<input type="checkbox"/>
Table	<input type="checkbox"/>
Word art	<input type="checkbox"/>
Clipart	<input type="checkbox"/>
Italic text	<input type="checkbox"/>


Question 4

1. A school has used word processing software to produce the sponsor form shown below.



**School Fundraiser**

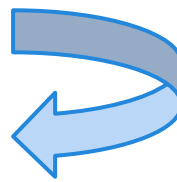
Sponsor's Name	Amount	Paid?



- (a) Tick (✓) the **three** correct boxes to show which features of word processing software have been used on this sponsor form. [3]

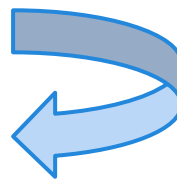
	Tick (✓)
Bullet points	<input type="checkbox"/>
Table	<input checked="" type="checkbox"/>
Word art	<input checked="" type="checkbox"/>
Clipart	<input checked="" type="checkbox"/>
Italic text	<input type="checkbox"/>

Answer 4



- (a) Tick (✓) the correct boxes to show the **three** features of Desk Top Publishing (DTP) software used on this new poster. [3]

Features	Tick (✓)
Clip Art	<input type="checkbox"/>
Bullet points	<input type="checkbox"/>
Table	<input type="checkbox"/>
Centre text	<input type="checkbox"/>
Underline	<input type="checkbox"/>
Border Art	<input type="checkbox"/>
Italic Font	<input type="checkbox"/>



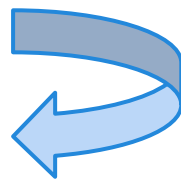
- a) Tick (✓) the correct boxes to show the three features of Desk Top Publishing (DTP) software used on this new poster. [3]

Features	Tick (✓)
Clip Art	<input checked="" type="checkbox"/>
Bullet points	<input type="checkbox"/>
Table	<input type="checkbox"/>
Centre text	<input checked="" type="checkbox"/>
Underline	<input type="checkbox"/>
Border Art	<input checked="" type="checkbox"/>

Answer 4



(b) Tick (✓) the feature of the software that could be used to find the error on the sponsor form. [1]



	Tick (✓)
Thesaurus	<input type="checkbox"/>
Spell Check	<input type="checkbox"/>
Word Count	<input type="checkbox"/>

(c) Other than *word processing* or *email software*, state **two** different types of software that could be used in organising the fun run. Give an example of how **each** could be used. [4]

Type of software 1 .....

Example of use .....

.....

.....

Type of software 2 .....

Example of use .....

.....

- (b) Tick (✓) the feature of the software that could be used to find the error on the sponsor form. [1]

	Tick (✓)
Thesaurus	<input type="checkbox"/>
Spell Check	<input checked="" type="checkbox"/>
Word Count	<input type="checkbox"/>

- (c) Other than *word processing* or *email software*, state **two** different types of software that could be used in organising the fun run. Give an example of how **each** could be used. [4]

Type of software 1 Spreadsheet software

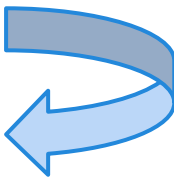
Example of use keep track of the money spent and received.

Type of software 2 Database

Example of use Store details of the runners i.e. name

address etc.

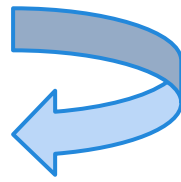
Answer



4. Digital photography is widely used.

(a) Name an output device used in digital photography.

[1]



(b) Name **four different** features of photo editing software and describe how **each** is used in digital photography. 4 × 1 [4]

Feature 1: .....

.....

Feature 2: .....

.....

Feature 3: .....

.....

Feature 4: .....

.....

4. Digital photography is widely used.

(a) Name an output device used in digital photography.

[1]

Priner

---

(b) Name **four different** features of photo editing software and describe how **each** is used in digital photography. 4 × 1 [4]

Feature 1:         Crop          
        to remove unwanted parts of the image        

---

Feature 2:         Zoom          
        to focus on a certain part of the photo        

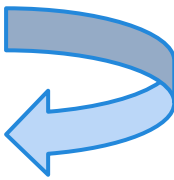
---

Feature 3:         Lasoo          
        to select a specific parts of an image        

---

Feature 4:         Text          
        to add a caption/slogan to an image        

---

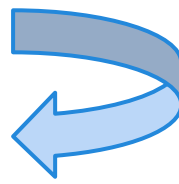


(b) Name the feature of DTP software that could be used to find a similar meaning for a word. [1]

.....

(c) The school would like to send parents a letter informing them of the ski trip meeting. Give the name of a feature of DTP software that can automatically combine names and addresses to send the same letter to many people. [1]

.....



(b) Name the feature of DTP software that could be used to find a similar meaning for a word. [1]

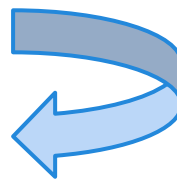
Thesaurus

---

(c) The school would like to send parents a letter informing them of the ski trip meeting. Give the name of a feature of DTP software that can automatically combine names and addresses to send the same letter to many people. [1]

Mail merge

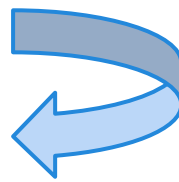
---



1. A school is holding a sponsored bike ride.

The first draft of a poster has been created.

SPONSORED BIKE RIDE
School Field
February 7 <sup>th</sup> 2014
3 pm



- (a) Give **four** features of Desktop Publishing (DTP) software that could be used to improve the document above. [4]

.....

.....

- (b) **Tick** (✓) the correct box to show which application is the most suitable for each use. [3]

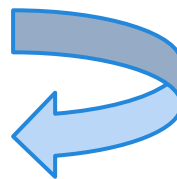
Use	Application		
	Spreadsheet	Database	Presentation
Keeping details of all students who are cycling.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Keeping a total of sponsorship money donated.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Advertising the sponsored bike ride in the school foyer	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Question

1. A school is holding a sponsored bike ride.

The first draft of a poster has been created.

SPONSORED BIKE RIDE School Field February 7 <sup>th</sup> 2014 3 pm
--



- (a) Give **four** features of Desktop Publishing (DTP) software that could be used to improve the document above. [4]

borderart

clipart

Bold Font

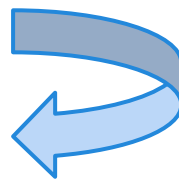
Bullet points

- (b) Tick (✓) the correct box to show which application is the most suitable for each use. [3]

Use	Application		
	Spreadsheet	Database	Presentation
Keeping details of all students who are cycling.	1 <input type="checkbox"/>	2 <input checked="" type="checkbox"/>	3 <input type="checkbox"/>
Keeping a total of sponsorship money donated.	4 <input checked="" type="checkbox"/>	5 <input type="checkbox"/>	6 <input type="checkbox"/>
Advertising the sponsored bike ride in the school foyer	7 <input type="checkbox"/>	8 <input type="checkbox"/>	9 <input checked="" type="checkbox"/>

Answer

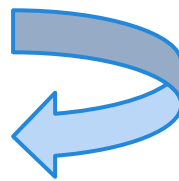




- (c) Name the technique used which automatically puts names and addresses into the letter below. [1]

```
<<Title>>  
<<Forename>> <<Surname>>  
<<Street>>  
<<Address>>  
<<Postcode>>  
  
Dear <<Title>> <<Surname>>  
  
We are holding a sponsored bike ride event  
on February 7th 2014 at 3 pm.  
  
All money raised will go towards school funds.
```

Technique .....



- (c) Name the technique used which automatically puts names and addresses into the letter below. [1]

```
<<Title>>  
<<Forename>> <<Surname>>  
<<Street>>  
<<Address>>  
<<Postcode>>  
  
Dear <<Title>> <<Surname>>  
  
We are holding a sponsored bike ride event  
on February 7th 2014 at 3 pm.  
  
All money raised will go towards school funds.
```

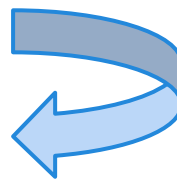
Technique mail merge



# 9

## Databases

A local drama group uses a database to store details of cast members. Part of this database is shown below.

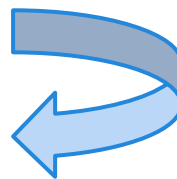


Membership No.	Lastname	Firstname	Speciality	Gender	Date of Membership
090	Davies	Sara	Singer	F	12/07/07
091	Evans	Mair	Dancer	F	14/03/07
092	Jones	Kerry	Musician	F	05/21/08
093	Khan	Abu	Singer	M	05/05/05
094	Phillips	James	Dancer	M	18/11/06
095	Rogers	Daniel	Musician	M	12/12/04
096	Carter	Eliza	Dancer	F	17/10/07

- (b) The organiser wants to find the details of all female dancers.  
Write down the *field* and the *search data* needed to get this data from the database. [2]

Field	Logical operator	Search criteria

A local drama group uses a database to store details of cast members. Part of this database is shown below.



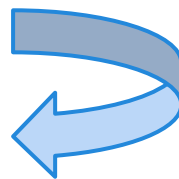
Membership No.	Lastname	Firstname	Speciality	Gender	Date of Membership
090	Davies	Sara	Singer	F	12/07/07
091	Evans	Mair	Dancer	F	14/03/07
092	Jones	Kerry	Musician	F	05/21/08
093	Khan	Abu	Singer	M	05/05/05
094	Phillips	James	Dancer	M	18/11/06
095	Rogers	Daniel	Musician	M	12/12/04
096	Carter	Eliza	Dancer	F	17/10/07

- (b) The organiser wants to find the details of all female dancers.  
Write down the *field* and the *search* data needed to get this data from the database. [2]

Field	Logical operator	Search criteria
Speciality	=	Dancer
Gender	=	F

Answer 2

A local drama group uses a database to store details of cast members. Part of this database is shown below.



Membership No.	Lastname	Firstname	Speciality	Gender	Date of Membership
090	Davies	Sara	Singer	F	12/07/07
091	Evans	Mair	Dancer	F	14/03/07
092	Jones	Kerry	Musician	F	05/21/08
093	Khan	Abu	Singer	M	05/05/05
094	Phillips	James	Dancer	M	18/11/06
095	Rogers	Daniel	Musician	M	12/12/04
096	Carter	Eliza	Dancer	F	17/10/07

- (c) When the organiser was typing in the data he made a mistake. Identify the mistake, describe how it could have happened and describe a method of preventing the mistake. [3]

.....

.....

.....

.....

.....

.....

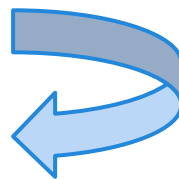
.....

.....

### Question 3



A local drama group uses a database to store details of cast members. Part of this database is shown below.



Membership No.	Lastname	Firstname	Speciality	Gender	Date of Membership
090	Davies	Sara	Singer	F	12/07/07
091	Evans	Mair	Dancer	F	14/03/07
092	Jones	Kerry	Musician	F	05/21/08
093	Khan	Abu	Singer	M	05/05/05
094	Phillips	James	Dancer	M	18/11/06
095	Rogers	Daniel	Musician	M	12/12/04
096	Carter	Eliza	Dancer	F	17/10/07

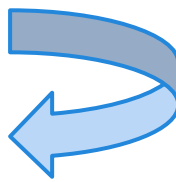
- (c) When the organiser was typing in the data he made a mistake. Identify the mistake, describe how it could have happened and describe a method of preventing the mistake. [3]

.....  
The error is 05/21/08. There are not 21 months in one year.  
Transposition error or transcription error could have

.....  
caused this.  
.....

.....  
The database could have used a validation technique  
such as range check.  
.....  
.....

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.

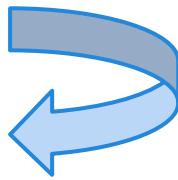
[1]

(c) State the purpose of the key field.

[1]



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.

7

[1]

(b) Give the key field.

Membership number

[1]

(c) State the purpose of the key field.

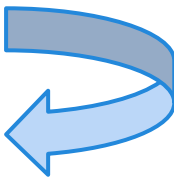
[1]

To make each record unique

---

Answer 1

7. A tennis club uses a database to store membership details. Part of the database is shown below.



Player ID	Name	DOB	Gender	Fees Paid	Coaching Slot	Player Type
1125	V Goodwin	25/06/1995	F	Yes	3	Junior
1126	L Williams	18/05/1979	F	Yes	1	Adult
1147	M Khan	22/07/1980	M	Yes	4	Adult
1256	A Evans	38/03/1975	M	No	2	Adult
1370	K Smith	07/10/1999	F	Yes	5	Junior
1372	L Thomas	08/10/1998	F	Yes	6	Junior
1527	M Jones	31/10/1998	M	No	7	Junior
1546	G Thraves	23/08/1998	F	No	8	Junior

- (a) State how many records are shown in the above database.  [1]
- (b) State how many fields are shown in the above database.  [1]
- (c) The **key field** is Player ID. State the purpose of the key field. [1]

.....  
.....

7. A tennis club uses a database to store membership details. Part of the database is shown below.

Player ID	Name	DOB	Gender	Fees Paid	Coaching Slot	Player Type
1125	V Goodwin	25/06/1995	F	Yes	3	Junior
1126	L Williams	18/05/1979	F	Yes	1	Adult
1147	M Khan	22/07/1980	M	Yes	4	Adult
1256	A Evans	38/03/1975	M	No	2	Adult
1370	K Smith	07/10/1999	F	Yes	5	Junior
1372	L Thomas	08/10/1998	F	Yes	6	Junior
1527	M Jones	31/10/1998	M	No	7	Junior
1546	G Thraves	23/08/1998	F	No	8	Junior

(a) State how many records are shown in the above database.

8

[1]

(b) State how many fields are shown in the above database.

7

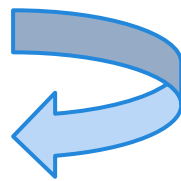
[1]

(c) The **key field** is Player ID. State the purpose of the key field.

[1]

.....  
to make each record unique  
.....

Player ID	Name	DOB	Gender	Fees Paid	Coaching Slot	Player Type
1125	V Goodwin	25/06/1995	F	Yes	3	Junior
1126	L Williams	18/05/1979	F	Yes	1	Adult
1147	M Khan	22/07/1980	M	Yes	4	Adult
1256	A Evans	38/03/1975	M	No	2	Adult
1370	K Smith	07/10/1999	F	Yes	5	Junior
1372	L Thomas	08/10/1998	F	Yes	6	Junior
1527	M Jones	31/10/1998	M	No	7	Junior
1546	G Thraves	23/08/1998	F	No	8	Junior

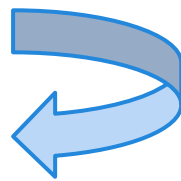


(d) Tick (✓) the correct box to show the data type that is used for the **Coaching Slot** field. [1]

	Tick (✓)
NUMBER	<input type="checkbox"/>
CURRENCY	<input type="checkbox"/>
DATE/TIME	<input type="checkbox"/>

Question 3

Player ID	Name	DOB	Gender	Fees Paid	Coaching Slot	Player Type
1125	V Goodwin	25/06/1995	F	Yes	3	Junior
1126	L Williams	18/05/1979	F	Yes	1	Adult
1147	M Khan	22/07/1980	M	Yes	4	Adult
1256	A Evans	38/03/1975	M	No	2	Adult
1370	K Smith	07/10/1999	F	Yes	5	Junior
1372	L Thomas	08/10/1998	F	Yes	6	Junior
1527	M Jones	31/10/1998	M	No	7	Junior
1546	G Thraves	23/08/1998	F	No	8	Junior

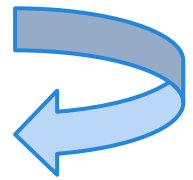


(d) Tick (✓) the correct box to show the data type that is used for the **Coaching Slot** field. [1]

	Tick (✓)
NUMBER	<input checked="" type="checkbox"/>
CURRENCY	<input type="checkbox"/>
DATE/TIME	<input type="checkbox"/>

Answer 3

Player ID	Name	DOB	Gender	Fees Paid	Coaching Slot	Player Type
1125	V Goodwin	25/06/1995	F	Yes	3	Junior
1126	L Williams	18/05/1979	F	Yes	1	Adult
1147	M Khan	22/07/1980	M	Yes	4	Adult
1256	A Evans	38/03/1975	M	No	2	Adult
1370	K Smith	07/10/1999	F	Yes	5	Junior
1372	L Thomas	08/10/1998	F	Yes	6	Junior
1527	M Jones	31/10/1998	M	No	7	Junior
1546	G Thraves	23/08/1998	F	No	8	Junior



(e) The database contains an error. State the error and describe a suitable validation technique that could have prevented the error. [3]

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(f) The club wants to find the junior players who haven't paid their membership fees. Complete the table below to show how they can obtain this information from the database. [2]

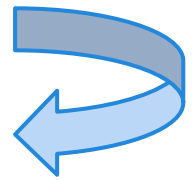
Field Name	Operator	Search Criteria
	=	

AND

Field Name	Operator	Search Criteria
	=	

**Question 4**

Player ID	Name	DOB	Gender	Fees Paid	Coaching Slot	Player Type
1125	V Goodwin	25/06/1995	F	Yes	3	Junior
1126	L Williams	18/05/1979	F	Yes	1	Adult
1147	M Khan	22/07/1980	M	Yes	4	Adult
1256	A Evans	38/03/1975	M	No	2	Adult
1370	K Smith	07/10/1999	F	Yes	5	Junior
1372	L Thomas	08/10/1998	F	Yes	6	Junior
1527	M Jones	31/10/1998	M	No	7	Junior
1546	G Thraves	23/08/1998	F	No	8	Junior



(e) The database contains an error. State the error and describe a suitable validation technique that could have prevented the error. [3]

The date of birth (DOB) is incorrect for A Evans.

Range check. Where the day can be anything between 1 and 31 only.

(f) The club wants to find the junior players who haven't paid their membership fees. Complete the table below to show how they can obtain this information from the database. [2]

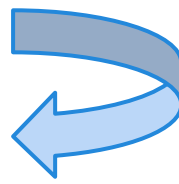
Field Name	Operator	Search Criteria
Player Type	=	Junior

AND

Field Name	Operator	Search Criteria
Fees Paid	=	No

**Question 4**

- (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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- (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]

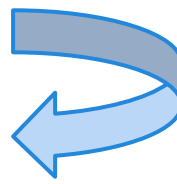
.....  
The club can use the database to search for information,  
.....

.....  
this will be less time consuming than physically  
going through paperwork. The club could search for a  
.....

.....  
member to see if they have paid or not or to check if  
their address is correct or not.  
.....

.....  
The database could be backed up to other computers,  
which would make the data more secure in case of  
.....

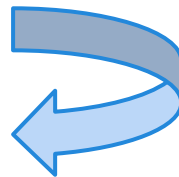
.....  
accidents or fire etc.  
.....





10

Email



Many people use email.

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

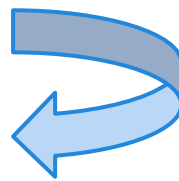
	True	False
(i) Email can be used on many devices.	1 <input type="checkbox"/>	2 <input type="checkbox"/>
(ii) Normal post is usually faster than email.	3 <input type="checkbox"/>	4 <input type="checkbox"/>
(iii) Emails can be sent to several users at the same time.	5 <input type="checkbox"/>	6 <input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

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

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

.....

.....



Many people use email.

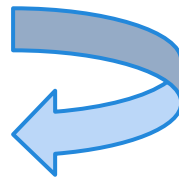
(a) Tick (✓) which of the following statements about email are True or False. [3]

	True	False
(i) Email can be used on many devices.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(ii) Normal post is usually faster than email.	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(iii) Emails can be sent to several users at the same time.	<input checked="" type="checkbox"/>	<input type="checkbox"/>

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

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

..... Same e-mail sent to more than one person .....  
at the same time  
.....



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

Example of use by teacher .....

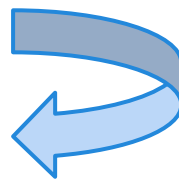
.....

.....

Example of use by pupil .....

.....

.....



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

Example of use by teacher .....

Send homework to all members of class.

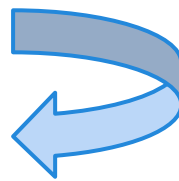
.....

.....

Example of use by pupil .....

Send email to other students asking for help with  
homework

.....



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

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

.....  
.....

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

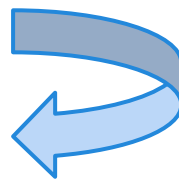
Example of use by teacher .....

.....  
.....

Example of use by pupil .....

.....  
.....





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

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

A file sent inside an email message.

.....

.....

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

Example of use by teacher .....

Send homework tasks to absent students.

.....

.....

Example of use by pupil .....

Sending work to other pupils to gather feedback.

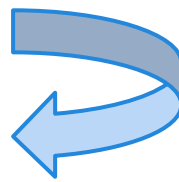
.....

.....



(a) Describe what is meant by an *email*.

[2]



(b) From the list below, select the most suitable feature of email software to match each description in the table by circling the correct letter in the boxes. Use each letter only once. [4]

- A Carbon copy
- B Email signature
- C Address book
- D File Attachment

Description	Letters			
	A	B	C	D
Allows you to add a personal item to the email	A	B	C	D
Allows you to send the same email to more than one person at once	A	B	C	D
Allows you to send a photograph with your email	A	B	C	D
Allows you to store contact details	A	B	C	D

(a) Describe what is meant by an *email*. [2]

Messages sent between users/computers (1) across network /  
via Internet (1)

(b) From the list below, select the most suitable feature of email software to match each description in the table by circling the correct letter in the boxes. Use each letter only once. [4]

- A Carbon copy
- B Email signature
- C Address book
- D File Attachment

Description	Letters			
	A	B	C	D
Allows you to add a personal item to the email	A	<input checked="" type="checkbox"/>	C	D
Allows you to send the same email to more than one person at once	<input checked="" type="checkbox"/>	B	C	D
Allows you to send a photograph with your email	A	B	C	<input checked="" type="checkbox"/>
Allows you to store contact details	A	B	<input checked="" type="checkbox"/>	D

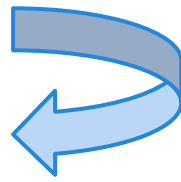
(c) The misuse of email can cause problems. State **one** misuse and give a way of preventing it. [2]

**Misuse:** .....

.....

**Prevention:** .....

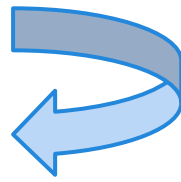
.....



(c) The misuse of email can cause problems. State **one** misuse and give a way of preventing it. [2]

**Misuse:** Viruses

**Prevention:** antivirus software /  
not opening emails from unknown sources



Statements
You can attach files to an email.
You can send an email to many people at the same time.
You must be at home to receive an email.
You need an email address to receive email.

True

False

1

2

3

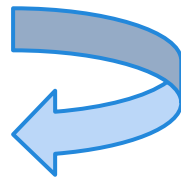
4

5

6

7

8



(b) *Carbon Copy (CC)* and *Blind Carbon Copy (BCC)* are both features of email.

(i) State what is meant by Carbon Copy (CC).

[1]

.....

.....

(ii) Explain the difference between Carbon Copy (CC) and Blind Carbon Copy (BCC).

[1]

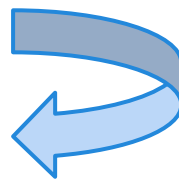
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Question



Statements	True	False
You can attach files to an email.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
You can send an email to many people at the same time.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
You must be at home to receive an email.	<input type="checkbox"/>	<input checked="" type="checkbox"/>
You need an email address to receive email.	<input checked="" type="checkbox"/>	<input type="checkbox"/>

(b) *Carbon Copy (CC)* and *Blind Carbon Copy (BCC)* are both features of email.

(i) State what is meant by Carbon Copy (CC). [1]

same email, multiple people, same time

.....

.....

(ii) Explain the difference between Carbon Copy (CC) and Blind Carbon Copy (BCC). [1]

same email, multiple people, same time BUT they can't see who else received the email

.....

.....

Answer

4. ICT is used for email.

(a) Describe what is meant by email (*electronic mail*).

[1]

.....

.....

(b) Describe **one** advantage of sending a group email.

[1]

.....

.....

(c) Give **two** pieces of advice that users should follow to protect their computer from infection by a virus when receiving email.

[2]

.....

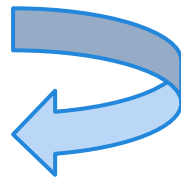
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.....

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Question 7

4. ICT is used for email.

(a) Describe what is meant by email (*electronic mail*).

[1]

Electronic message sent across the internet.

(b) Describe **one** advantage of sending a group email.

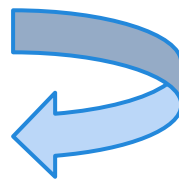
[1]

Faster to send message at the same time.

(c) Give **two** pieces of advice that users should follow to protect their computer from infection by a virus when receiving email. [2]

Virus scan attachments before opening them.

Do not open emails from people you don't know.







11

Spreadsheets

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.

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						

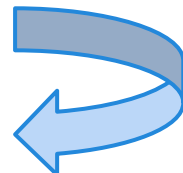
(a) State the data in cell B1.

50

[1]

Answer 1

	A	B	C	D	E	F	G	H	I
1	Month	Income	Wages	Food	Electricity	Water	Gas	Total Costs	Profit
2	January	£4,000	£1,500	£500	£350	£100	£175	£2,625	£1,375
3	February	£4,500	£2,000	£750	£320	£100	£100	£3,270	£1,230
4	March	£5,000	£2,000	£1,000	£320	£100	£80	£3,500	£1,500
5	April	£5,500	£2,000	£1,000	£300	£100	£75	£3,475	£2,025
6	May	£7,000	£2,000	£1,500	£400	£100	£75	£4,075	£2,925
7	June	£8,500	£2,500	£1,500	£400	£100	£100	£4,600	£3,900
8	July	£9,000	£2,500	£1,500	£420	£100	£120	£4,640	£4,360
9	August	£9,500	£2,500	£1,500	£440	£100	£75	£4,615	£4,885
10	September	£8,000	£2,000	£1,500	£500	£100	£75	£4,175	£3,825
11	October	£6,500	£2,000	£1,500	£350	£100	£100	£4,050	£2,450
12	November	£4,500	£2,000	£750	£350	£100	£200	£3,400	£1,100
13	December	£4,100	£2,000	£600	£300	£100	£250	£3,250	£850



(b) Which of the following formulas could be used to give the Total Costs in cell H2? [1]

- A = SUM(C2:G2)
- B = B2+C2+D2+E2+F2
- C = SUM(A2:H2)
- D = C2+D2+E2+F2

(c) Give a suitable formula for working out the Profit in cell I7. [1]

(d) Give two specific advantages of using a spreadsheet for working out the Profit. [2]

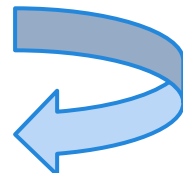
Advantage 1 .....

Advantage 2 .....

**Question 3**



	A	B	C	D	E	F	G	H	I
1	Month	Income	Wages	Food	Electricity	Water	Gas	Total Costs	Profit
2	January	£4,000	£1,500	£500	£350	£100	£175	£2,625	£1,375
3	February	£4,500	£2,000	£750	£320	£100	£100	£3,270	£1,230
4	March	£5,000	£2,000	£1,000	£320	£100	£80	£3,500	£1,500
5	April	£5,500	£2,000	£1,000	£300	£100	£75	£3,475	£2,025
6	May	£7,000	£2,000	£1,500	£400	£100	£75	£4,075	£2,925
7	June	£8,500	£2,500	£1,500	£400	£100	£100	£4,600	£3,900
8	July	£9,000	£2,500	£1,500	£420	£100	£120	£4,640	£4,360
9	August	£9,500	£2,500	£1,500	£440	£100	£75	£4,615	£4,885
10	September	£8,000	£2,000	£1,500	£500	£100	£75	£4,175	£3,825
11	October	£6,500	£2,000	£1,500	£350	£100	£100	£4,050	£2,450
12	November	£4,500	£2,000	£750	£350	£100	£200	£3,400	£1,100
13	December	£4,100	£2,000	£600	£300	£100	£250	£3,250	£850



(b) Which of the following formulas could be used to give the Total Costs in cell H2? [1]

- A = SUM(C2:G2)
- B = B2+C2+D2+E2+F2
- C = SUM(A2:H2)
- D = C2+D2+E2+F2

a

(c) Give a suitable formula for working out the Profit in cell I7. [1]

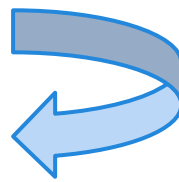
$$=B7-H7$$

(d) Give two specific advantages of using a spreadsheet for working out the Profit. [2]

Advantage 1 ..... automatic calculations

Advantage 2 ..... Automatic re-calculation

Answer 3

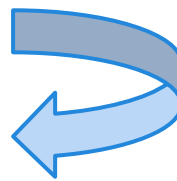


Tick (✓) the correct box to show whether the following statements are **True** or **False**.

[4]

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

Question 5

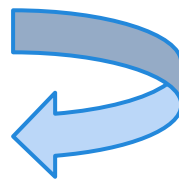


Tick (✓) the correct box to show whether the following statements are **True** or **False**.

[4]

Statement	True	False
Data in spreadsheets are always correct.	1 <input type="checkbox"/>	<input checked="" type="checkbox"/>
Spreadsheets automatically recalculate.	<input checked="" type="checkbox"/>	6 <input type="checkbox"/>
Spreadsheets cannot draw bar graphs.	3 <input type="checkbox"/>	<input checked="" type="checkbox"/>
You can lock some cells in a spreadsheet to prevent a user changing its contents.	<input checked="" type="checkbox"/>	8 <input type="checkbox"/>

Answer 5



5. A football club records details of its income in a spreadsheet. Part of this spreadsheet is shown below.

	A	B	C	D	E	F	G	H	I	J
1	Income (£)	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	TOTAL
2	Ticket sales (£)	63000	63000	63000	63000	65000	70000	61000	59000	507000
3	Fundraising (£)	4000	4000	2000	100	150	180	200	300	10930
4	Sponsors (£)	2000	2000	2000	2000	2000	2000	2000	2000	16000
5	Advertising (£)	1000	1000	1000	1000	1000	1000	1000	1000	8000
6	Programme sales (£)	180	150	100	160	180	140	120	100	1130
7	<b>TOTAL INCOME (£)</b>	<b>70180</b>	<b>70150</b>	<b>68100</b>	<b>66260</b>	<b>68330</b>	<b>73320</b>	<b>64320</b>	<b>62400</b>	<b>543060</b>

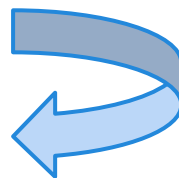
(a) Which cell shows the *most ticket sales* in any one month? ..... [1]

(b) Which of the following formulas could be used to give the total ticket sales in Cell J2? [1]

- A =B2+C2+D2+E2+F2+G2+H2+I2
- B =B2+C2+D2+F2+G2+H2+I2
- C =SUM(B2:I2)
- D =TOTAL COLUMN J

.....





5. A football club records details of its income in a spreadsheet. Part of this spreadsheet is shown below.

	A	B	C	D	E	F	G	H	I	J
1	Income (£)	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	TOTAL
2	Ticket sales (£)	63000	63000	63000	63000	65000	70000	61000	59000	507000
3	Fundraising (£)	4000	4000	2000	100	150	180	200	300	10930
4	Sponsors (£)	2000	2000	2000	2000	2000	2000	2000	2000	16000
5	Advertising (£)	1000	1000	1000	1000	1000	1000	1000	1000	8000
6	Programme sales (£)	180	150	100	160	180	140	120	100	1130
7	TOTAL INCOME (£)	70180	70150	68100	66260	68330	73320	64320	62400	543060

(a) Which cell shows the *most ticket sales* in any one month? ..... G2 [1]

(b) Which of the following formulas could be used to give the total ticket sales in Cell J2? [1]

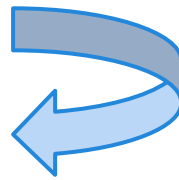
A =B2+C2+D2+E2+F2+G2+H2+I2

B =B2+C2+D2+F2+G2+H2+I2

C =SUM(B2:I2)

D =TOTAL COLUMN J

..... A or C

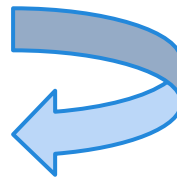


- (d) Spreadsheets are sometimes used as simulation models. [2]  
Complete the definition of a simulation model and give an example.

**A simulation model is a program which** .....

.....

**Example** .....

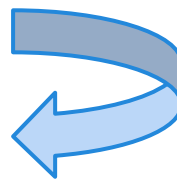


(d) Spreadsheets are sometimes used as simulation models. [2]  
Complete the definition of a simulation model and give an example.

A simulation model is a program which .....  
copies a real life situation

Example ..... Financial forecasting

	A	B	C	D	E	F	G	H	I	J	K
1	Total Cost of Trip	£780									
2	Student Name	Jan	Feb	Mar	Apr	May	Jun	Jul	Amount Paid	Amount to Pay	Status
3	J Jones	£250	£50	£50	£50	£50	£50	£50	£550	£230	Not Fully Paid
4	C White	£250	£60	£60	£60	£100	£150	£100	£780	£0	Trip Paid
5	H Vasoya	£250	£50	£50	£50	£50	£30	£300	£780	£0	Trip Paid
6	S Evans	£250	£100	£75	£75	£75	£75	£50	£700	£80	Not Fully Paid
7	S Peters	£250	£50	£50	£50	£50	£150	£100	£700	£80	Not Fully Paid
8	L Lamb	£250	£200	£50	£50	£50	£40	£10	£650	£130	Not Fully Paid



(a) Give the *data* in cell C4.  [1]

(b) State how the number in cell B3 has been formatted. [1]

(c) Which of the following formulas could be used to give the **Amount Paid** in cell I3? [1]

- A =SUM(B3:H3)
- B =B2+C2+D2+E2+F2+G2+H2
- C =SUM(B2:F2)
- D =B3+C3+D3+E3+F3+G3+H3+I3

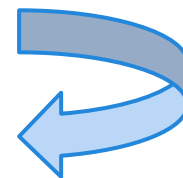
(d) The cell K3 contains the formula =IF(J3=0, "Trip Paid", "Not Fully Paid").

Which one of the following formulas would you expect to be used in cell K4? [1]

- A =IF(J1=0, "Trip Paid", "Not Fully Paid")
- B =IF(J4=0, "Trip Paid", "Not Fully Paid")
- C =IF(J3=0, "Trip Paid", "Not Fully Paid")
- D =IF(J2=0, "Trip Paid", "Not Fully Paid")

Question 9

	A	B	C	D	E	F	G	H	I	J	K
1	Total Cost of Trip	£780									
2	Student Name	Jan	Feb	Mar	Apr	May	Jun	Jul	Amount Paid	Amount to Pay	Status
3	J Jones	£250	£50	£50	£50	£50	£50	£50	£550	£230	Not Fully Paid
4	C White	£250	£60	£60	£60	£100	£150	£100	£780	£0	Trip Paid
5	H Vasoya	£250	£50	£50	£50	£50	£30	£300	£780	£0	Trip Paid
6	S Evans	£250	£100	£75	£75	£75	£75	£50	£700	£80	Not Fully Paid
7	S Peters	£250	£50	£50	£50	£50	£150	£100	£700	£80	Not Fully Paid
8	L Lamb	£250	£200	£50	£50	£50	£40	£10	£650	£130	Not Fully Paid



(a) Give the *data* in cell C4.

£60

[1]

(b) State how the number in cell B3 has been formatted.

[1]

Currency

(c) Which of the following formulas could be used to give the **Amount Paid** in cell I3? [1]

A =SUM(B3:H3)

B =B2+C2+D2+E2+F2+G2+H2

C =SUM(B2:F2)

D =B3+C3+D3+E3+F3+G3+H3+I3

a

(d) The cell K3 contains the formula =IF(J3=0, "Trip Paid", "Not Fully Paid").

Which one of the following formulas would you expect to be used in cell K4? [1]

A =IF(J1=0, "Trip Paid", "Not Fully Paid")

B =IF(J4=0, "Trip Paid", "Not Fully Paid")

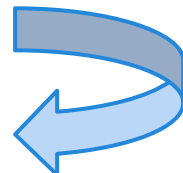
C =IF(J3=0, "Trip Paid", "Not Fully Paid")

D =IF(J2=0, "Trip Paid", "Not Fully Paid")

b

Answer 9

8. A school uses a spreadsheet to keep track of payments for a trip, as shown below.



	A	B	C	D	E	F	G	H	I	J	K
1	Total Cost of Trip	£780									
2	Student Name	Jan	Feb	Mar	Apr	May	Jun	Jul	Amount Paid	Amount to Pay	Status
3	J Jones	£250	£50	£50	£50	£50	£50	£50	£550	£230	Not Fully Paid
4	C White	£250	£60	£60	£60	£100	£150	£100	£780	£0	Trip Paid
5	H Vasoya	£250	£50	£50	£50	£50	£30	£300	£780	£0	Trip Paid
6	S Evans	£250	£100	£75	£75	£75	£75	£50	£700	£80	Not Fully Paid
7	S Peters	£250	£50	£50	£50	£50	£150	£100	£700	£80	Not Fully Paid
8	L Lamb	£250	£200	£50	£50	£50	£40	£10	£650	£130	Not Fully Paid

(e) The formula used to calculate the **Amount to Pay** in cell J3 is =B\$1-I3. State the type of cell referencing used in this formula. [1]

.....

(f) Give **two advantages** of using a spreadsheet to keep track of payments. [2]

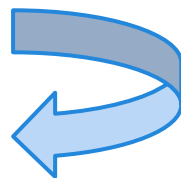
**Advantage 1** .....

.....

**Advantage 2** .....

.....

8. A school uses a spreadsheet to keep track of payments for a trip, as shown below.



	A	B	C	D	E	F	G	H	I	J	K
1	Total Cost of Trip	£780									
2	Student Name	Jan	Feb	Mar	Apr	May	Jun	Jul	Amount Paid	Amount to Pay	Status
3	J Jones	£250	£50	£50	£50	£50	£50	£50	£550	£230	Not Fully Paid
4	C White	£250	£60	£60	£60	£100	£150	£100	£780	£0	Trip Paid
5	H Vasoya	£250	£50	£50	£50	£50	£30	£300	£780	£0	Trip Paid
6	S Evans	£250	£100	£75	£75	£75	£75	£50	£700	£80	Not Fully Paid
7	S Peters	£250	£50	£50	£50	£50	£150	£100	£700	£80	Not Fully Paid
8	L Lamb	£250	£200	£50	£50	£50	£40	£10	£650	£130	Not Fully Paid

(e) The formula used to calculate the Amount to Pay in cell J3 is = $\$B\$1-I3$ . State the type of cell referencing used in this formula. [1]

Absolute cell referencing

(f) Give two *advantages* of using a spreadsheet to keep track of payments. [2]

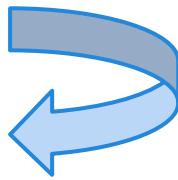
correct calculations

Advantage 1

Advantage 2 Automatic REcalculation



6. A teacher has created a spreadsheet to record daily temperatures over a three week period. Part of the spreadsheet is shown below.



	A	B	C	D
1		Temperature (°C)		
2	Day	Week 1	Week 2	Week 3
3	Monday	14	28	23
4	Tuesday	13	29	21
5	Wednesday	12	27	16
6	Thursday	16	28	15
7	Friday	14	26	20
8				
9	Average	13.8	27.6	19

- (a) Give the data in cell **A7**.

[1]

- (b) Give a suitable formula for working out the **Average** in Cell **B9**.

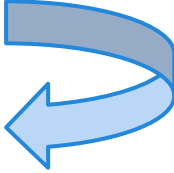
[1]

- (c) State the name of the technique used to join cells **B1**, **C1** and **D1** together to prevent the label overflowing.

[1]



6. A teacher has created a spreadsheet to record daily temperatures over a three week period. Part of the spreadsheet is shown below.



	A	B	C	D
1		Temperature (°C)		
2	Day	Week 1	Week 2	Week 3
3	Monday	14	28	23
4	Tuesday	13	29	21
5	Wednesday	12	27	16
6	Thursday	16	28	15
7	Friday	14	26	20
8				
9	Average	13.8	27.6	19

- (a) Give the data in cell **A7**.

Friday

[1]

- (b) Give a suitable formula for working out the **Average** in Cell **B9**.

[1]

=AVERAGE (B3 : B7)

.....

- (c) State the name of the technique used to join cells **B1**, **C1** and **D1** together to prevent the label overflowing.

[1]

Merge cells

.....



# 12

Data logging and control

- (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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.....

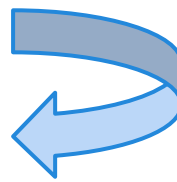
- (ii) 1100

.....

.....

.....

.....



- (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

TEMPERATURE, LIGHT, HUMIDITY and  
MOISTURE the sensors are normal

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

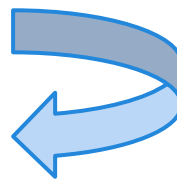
- (ii) 1100

TEMPERATURE and LIGHT are high

HUMIDITY and MOISTURE are normal

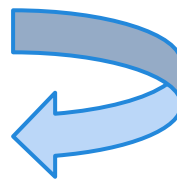
.....  
.....  
.....

Answer 1

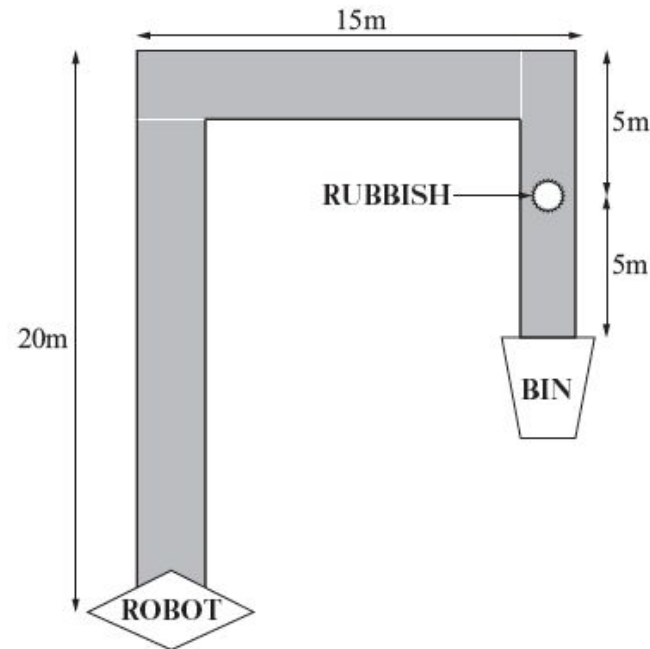


The college uses a robot to teach computer control using the following instructions.

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]

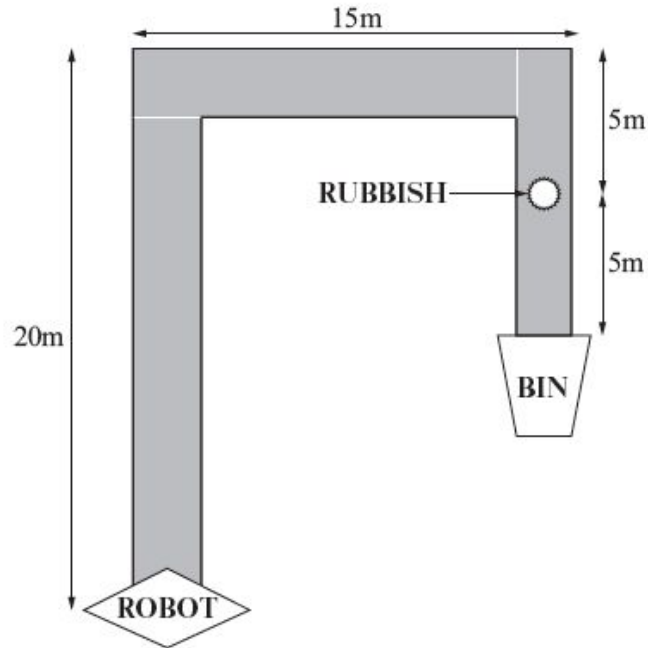


Question 2

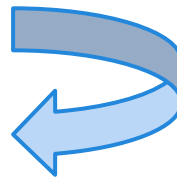
The college uses a robot to teach computer control using the following instructions.

FWD n	Move forward n metres
BACK n	Move backwards n metres
LEFT t	Turn left t degrees
RIGHT t	Turn right 90 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]



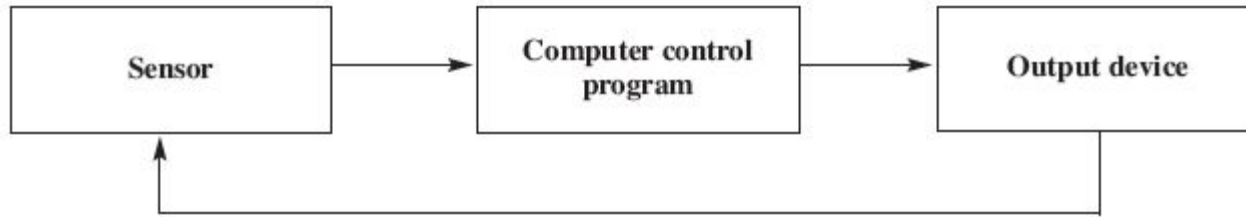
FWD 20  
 RIGHT 90  
 FWD 15  
 RIGHT 90  
 FWD 5  
 GRAB  
 FWD 5  
 RELEASE



Answer 2



6. A computer controlled central heating system is used to *monitor* and *maintain* the temperature of a room at 20°C. A diagram of this system is shown below.



Describe *in detail* how this computer controlled system would *monitor* and *maintain* the temperature of a room at 20°C. In your answer you should refer to the type of sensor, output device and processes involved. [5]

.....

.....

.....

.....

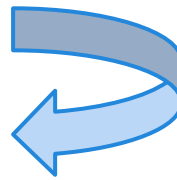
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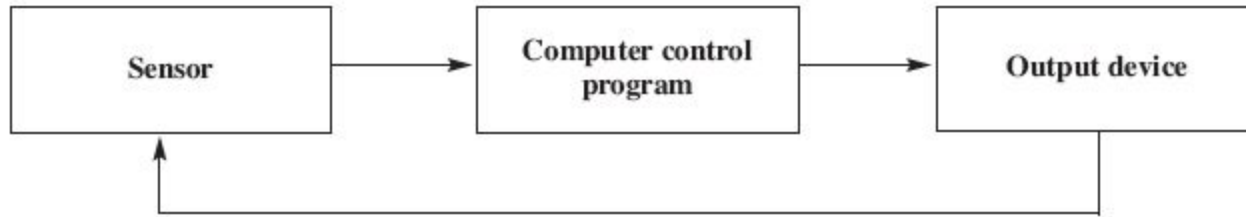
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6. A computer controlled central heating system is used to *monitor* and *maintain* the temperature of a room at 20°C. A diagram of this system is shown below.



Describe *in detail* how this computer controlled system would *monitor* and *maintain* the temperature of a room at 20°C. In your answer you should refer to the type of sensor, output device and processes involved. [5]

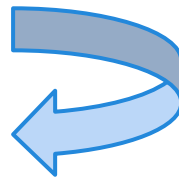
Temperature sensor can be used in conjunction with

heater and air conditioning unit.

If the temperature >20 then turn on Air Con.

If the temperature <20 then turn on Heater.





(b) The house has a burglar alarm system. Name **three** types of sensor which could be used in the burglar alarm to detect unauthorised entry into the house and for **each** describe a *different* way it could be used. [6]

**Sensor 1** .....

**Use** .....

.....

.....

**Sensor 2** .....

**Use** .....

.....

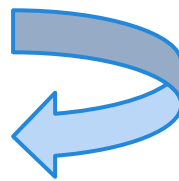
.....

**Sensor 3** .....

**Use** .....

.....

.....



(b) The house has a burglar alarm system. Name **three** types of sensor which could be used in the burglar alarm to detect unauthorised entry into the house and for **each** describe a *different* way it could be used. [6]

**Sensor 1** Light beam (PIR)  
In hall/room contacts computer when beam is broken  
**Use**

.....  
.....

**Sensor 2** Pressure pad  
On floor in front of door/below a window which  
**Use**  
sends signal when stepped on

.....  
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**Sensor 3** Movement detector  
On wall, sends a signal when movement is  
**Use**  
detected

.....  
.....

6. A school uses ICT to collect weather data.

(a) Name **two** *different* types of sensor used to collect weather data.

[2]

Sensor 1 .....

Sensor 2 .....

(b) Tick (✓) the correct box to show which of the following is *data*, which is *information* and which is *knowledge*.

[3]

	DATA	INFORMATION	KNOWLEDGE
The highest recorded temperature was 21°C and this was the warmest day of the week.	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>
15°C, 14°C, 19°C, 20°C and 21°C.	4 <input type="checkbox"/>	5 <input type="checkbox"/>	6 <input type="checkbox"/>
15, 14, 19, 20, 21	7 <input type="checkbox"/>	8 <input type="checkbox"/>	9 <input type="checkbox"/>

(c) Give **two** *other different* ways of displaying weather information on a computer.

[2]

.....

.....

6. A school uses ICT to collect weather data.

(a) Name **two** *different* types of sensor used to collect weather data. [2]

Sensor 1 ..... temperature  
light

Sensor 2 .....

(b) Tick (✓) the correct box to show which of the following is *data*, which is *information* and which is *knowledge*. [3]

	DATA	INFORMATION	KNOWLEDGE
The highest recorded temperature was 21°C and this was the warmest day of the week.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
15°C, 14°C, 19°C, 20°C and 21°C.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
15, 14, 19, 20, 21	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

(c) Give **two** *other different* ways of displaying weather information on a computer. [2]

1. In a spreadsheet.

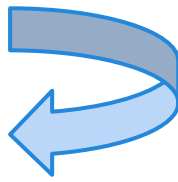
2. As a graph



Sensor 3 ..... Smoke

What is measured ..... Atmospheric smoke

Description of use in school ..... Smoke alarms in a science lab



10. Control systems are used in schools.

- (a) (i) Complete the table to show which sensor could be used to monitor each situation and what the output would be. **The first one has been done for you. Use a different sensor and output each time.** [4]

Situation	Sensor	Output
A teacher enters the school at night.	<i>Movement sensor</i>	<i>Light switches on</i>
A burglar enters the school.		
Keep the conditions in a room below 17°C.		

- (ii) Give an example of how a humidity sensor could be used in a school. [1]

.....

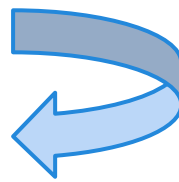
.....

.....

- (b) State an advantage to a school of using a control system. [1]

.....

.....



10. Control systems are used in schools.

- (a) (i) Complete the table to show which sensor could be used to monitor each situation and what the output would be. **The first one has been done for you. Use a different sensor and output each time.** [4]

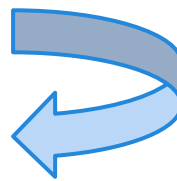
Situation	Sensor	Output
A teacher enters the school at night.	<i>Movement sensor</i>	<i>Light switches on</i>
A burglar enters the school.	Pressure sensor	Alarms sounds
Keep the conditions in a room below 17°C.	Temperature sensor	Air conditioning turns on

- (ii) Give an example of how a humidity sensor could be used in a school. [1]

To measure the moisture in the air in the greenhouse

- (b) State an advantage to a school of using a control system. [1]

More accurate than humans

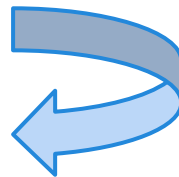






16

Staying safe online



Describe what advice home users might be given about:

(i) **Email safety** [2]

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(ii) **Protecting confidential data** [2]

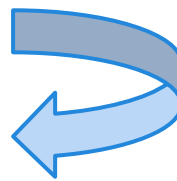
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Describe what advice home users might be given about:

- (i) **Email safety** [2]

Scan regularly using virus detection and removal  
programs.

Put block on junk mail.

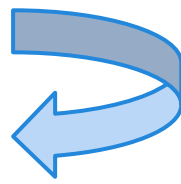
- (ii) **Protecting confidential data** [2]

Use non obvious passwords on online bank accounts -  
using a mixture of upper and lowercase along with

symbols.

Change your passwords regularly.

(b) Describe the advice parents could be given about *potential problems* and how to *keep children safe online*. [2 × 2]



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Question 2

(b) Describe the advice parents could be given about *potential problems* and how to *keep children safe online*. [2 × 2]

Cyber bullying.

Parents can monitor emails, monitor web activities,

monitor mobile phone calls. Reporting it to CEOP

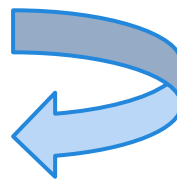
(child exploitation and online protection) or to other

responsible adults.

Identity theft.

Be careful about giving out personal details, e.g. date of birth. Do not use the same password on the site.

Make profile personal.







17

Data protection act

7. Many laws have been introduced to deal with issues arising from the use of computers.

(a) Place the appropriate letter in the table below to show which Act deals with each issue. [3]

- A Computer Misuse Act
- B Electronic Communications Act
- C Regulation of Investigatory Powers Act

ISSUES	LETTER
Allows legal interception of emails	<input type="checkbox"/>
Makes use of digital signatures legal	<input type="checkbox"/>
Makes hacking illegal	<input type="checkbox"/>

(b) (i) Give **three** principles of the Data Protection Act (DPA). [3]

.....

.....

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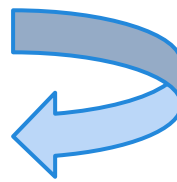
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7. Many laws have been introduced to deal with issues arising from the use of computers.

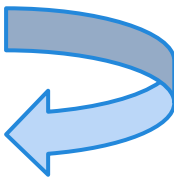
(a) Place the appropriate letter in the table below to show which Act deals with each issue. [3]

- A Computer Misuse Act
- B Electronic Communications Act
- C Regulation of Investigatory Powers Act

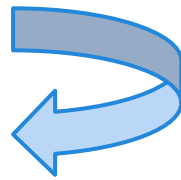
ISSUES	LETTER
Allows legal interception of emails	<input type="text" value="C"/>
Makes use of digital signatures legal	<input type="text" value="B"/>
Makes hacking illegal	<input type="text" value="A"/>

(b) (i) Give **three** principles of the Data Protection Act (DPA). [3]

.....  
Data should not be kept longer than necessary.  
.....  
Data should be kept secure against loss.  
.....  
.....  
Data should not be transferred to countries outside  
.....  
EU or without adequate provision.  
.....  
.....  
.....  
.....







(ii) Name **two** exemptions from the DPA. [2]

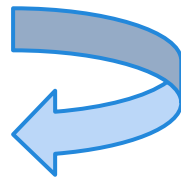
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**Question 2**



(ii) Name two exemptions from the DPA. [2]

Collection of taxes.

Medical records.



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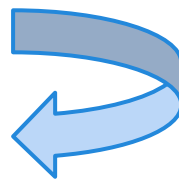
Health



9. People are concerned about possible health hazards associated with using a computer for long periods of time.

Give **three** different health hazards **and** their matching preventions.

3 × 2 [6]



1. Neck strain.

Use adjustable chairs OR adjustable monitor stand.

2. Repetitive strain injury (RSI).

Ergonomic keyboards.

3. Eye strain.

Take regular breaks

Answer 1