

Surname	Centre Number	Candidate Number
Other Names		0



GCSE
178/03

**INFORMATION AND COMMUNICATION
TECHNOLOGY
PAPER 1
Higher Tier**

P.M. MONDAY, 13 June 2011
1½ hours

Examiner's Use Only		
Question	Maximum Mark	Mark Awarded
1	10	
2	4	
3	5	
4	12	
5	4	
6	7	
7	8	
8	12	
9	8	
10	10	
Total Mark	80	

INSTRUCTIONS TO CANDIDATES

Use black ink or black ball-point pen. Do not use pencil or gel pen. Do not use correction fluid.

Write your name, centre number and candidate number in the spaces at the top of this page.

Answer **all** questions.

Write your answers in the spaces provided in this booklet.

If you run out of space in the question-and-answer booklet you may use continuation sheets. Number the questions clearly and put your sheets in this question-and-answer booklet.

INFORMATION FOR CANDIDATES

The number of marks is given in brackets at the end of each question or part-question.



J U N 1 1 0 1 7 8 0 3 0 1

Answer **all** questions.

1. An estate agent uses Desktop Publishing (DTP) software to create the following business card.



- (a) Other than postal address, give **two** extra items of *contact data* he could have printed on the business card. [2]

.....

- (b) Give **two** features of the DTP software used to produce the business card shown above. [2]

.....

- (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>



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]

4

0178 0310003

3. Many learner drivers use traffic simulation models.

(a) Give a definition of a simulation model by completing the following sentence with suitable words or phrases. [2]

A simulation model is a which is a representation of

(b) Give **two** advantages of using simulation models when learning to drive. [2]

Advantage 1

.....
.....

Advantage 2

.....
.....

(c) Give **one** problem with simulation models. [1]

.....
.....

5



4. A sports centre has started to set up a computerised database of its 10,000 members. Part of this database is shown below.

Member Number	Name	Gender	Start Date	Expiry Date	Club	Disabled Parking Permit
1432	Davies, Y	M	01/01/2011	01/01/2012	Basketball	Y
5276	Ali, R	M	04/05/2011		Tennis	N
2863	Peters, L	F	03/09/2010		Soccer	Y
8234	Mertson, S	M	12/09/2010		Tennis	N
2865	Jones, D	F	03/01/2011		Basketball	Y
2945	Smith, F	F	02/09/2010		Soccer	N

(a) State the 'keyfield'. [1]

(b) Give the purpose of the keyfield. [1]

(c) The creator of the database wants to use validation techniques to prevent errors in the data.

Using each type of validation technique only once, suggest the most suitable data validation techniques for:

(i) Gender [1]

(ii) Start Date [1]

(d) Describe how the data in the annual 'Expiry Date' field could be automatically produced after the 'Start Date' was entered. [2]

(e) The manager wants to send a letter to all disabled parking permit holders.

(i) Write down the *field* and the *search* data needed to get this data from this database. [1]

(ii) Give **one other** feature of the database software the manager could use to automatically produce the letter. [1]



(f) The manager wants to identify all female soccer players to tell them about a 5 a side tournament.

Write down the *fields* and the *search* data needed to get this data from this database. [2]

Field	Logical operator	Search criteria
	=	
	=	

(g) Computer databases generally take up less storage room.

Give **two other** advantages to the sports centre of keeping members data on a computer database. [2]

Advantage 1

Advantage 2

12

5. Describe how supermarkets use their PoS systems for automatic stock control. [4]

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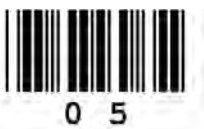
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4



6. A student has £100 a week to spend and is trying to save £60 to buy a concert ticket. The student used the following spreadsheet to help him plan his budget.

	A	B
1		
2	Weekly Income	£100
3		
4	Food	£20
5	Utilities	£10
6	Phone and Internet	£10
7	Clothes and entertainment	£20
8	Rent	£25
9	TOTAL	£85
10		
11	Savings	£15

- (a) Tick (✓) which **two** of the following are *cell formatting* features used in column **B**. [2]

Tick (✓) **two** boxes only

Right Align

1

Decimal places

2

Formulas

3

Currency

4

- (b) Write a label A, B, C or D in the box to show which of the following formulas could be used to give the Total Cost in **Cell B9**. [1]

A =B9+C9+D9+E9

B =SUM(B4:B8)

C =B4+B5+B6+B7+B8

D =Total Cost B:E

- (c) Give a formula which could be used to give the *Savings* in **Cell B11**. [1]

.....

- (d) The formula used to give the total spent on *Food* in **Cell B4** was = **\$B\$2*0.2**

Give the type of cell referencing used in this formula. [1]

.....



(e) Describe what investigations the student could perform on this spreadsheet to help discover if or when the saving of £60 for the concert ticket could be achieved. [2]

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

7

7. Banks issue cards which can be used in shops at the Point of Sale (PoS) systems commonly called 'checkouts' and also in Automatic Teller Machines (ATMs) commonly called 'cash points'.

(a) Give **two** types of *bank card* that can be used **both** at a shop's *checkout* **and** at a bank's *cash point*. [2]

.....

(b) Tick (✓) the **two** *input* devices which are found **both** at the *checkout* **and** at the *cash point*. [2]

Tick (✓) **two** boxes only

Weighing scales	<input type="checkbox"/>
Card reader	<input type="checkbox"/>
Keypad	<input type="checkbox"/>
Printer	<input type="checkbox"/>

(c) Give **two** services which could be obtained at **both** the *checkout* **and** at the *cash point*. [2]

.....

(d) *In addition to cash and cards issued by banks*, shoppers can pay for their goods at the PoS in a variety of different ways.

Give **two** *other* different ways shoppers can pay for their goods. [2]

(i)

(ii)

8



8. A school has a network

(a) What is a *network*?

[1]

.....

(b) Teachers can use email to send messages to other teachers on the network.

Give **one** advantage of using email to send messages to *other teachers*.

[1]

.....

.....

(c) Teachers can also put notices to pupils on the school's intranet.

Give an example of a suitable type of notice a teacher might put on the intranet *for pupils*.

[1]

.....

(d) 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

.....

.....

(f) *Other than hardware devices, describe how an online ICT service can be used for teaching and learning.* [2]

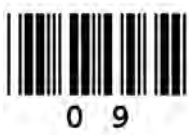
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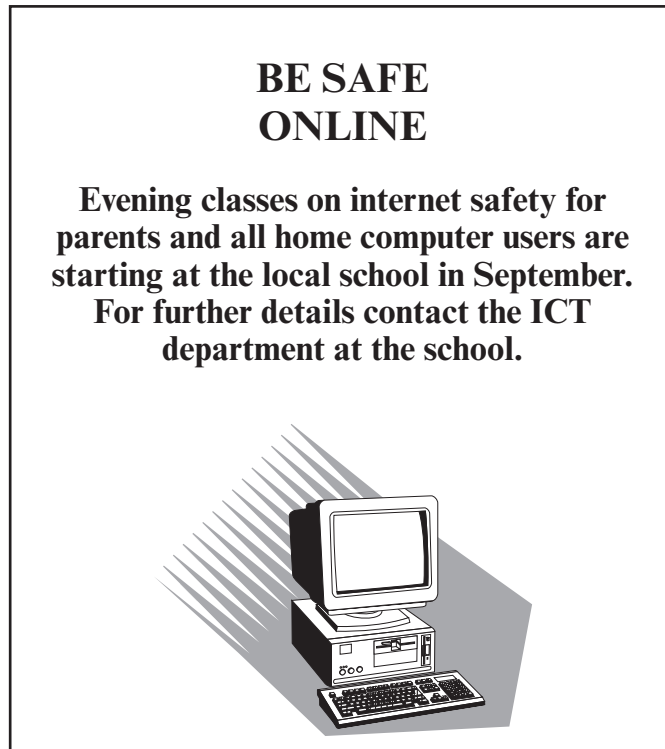
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12



9. The following poster appeared in a shop.



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

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10. 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]

.....

.....

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

.....

.....

.....

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

Use 1

.....

Use 2

.....

Use 3

.....

