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| Candidate Name | Centre Number | Candidate Number |
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GCSE

178/03*265/02

**INFORMATION AND
COMMUNICATION TECHNOLOGY**

PAPER 1

**(SHORT COURSE) INFORMATION AND
COMMUNICATION TECHNOLOGY**

Higher Tier

P.M. TUESDAY, 20 May 2008

1½ hours

| Examiner's Use Only | |
|-----------------------|--|
| Total Mark | |

INSTRUCTIONS TO CANDIDATES

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

Answer **all** questions.

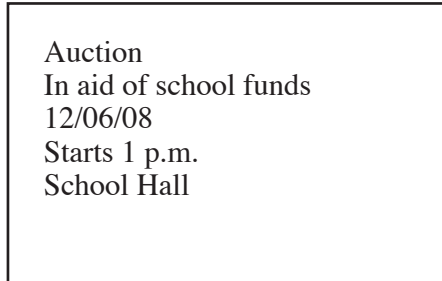
Write your answers in the spaces provided in this booklet. Where the space is not sufficient for your answer, continue the answer at the back of the book, taking care to number the continuation correctly.

INFORMATION FOR CANDIDATES

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

Answer **all** questions.

- 1. A school is designing a poster to advertise a fund raising auction. Part of this poster is shown below.



- (a) Give **two** features of DTP (Desktop Publishing) software which could be used to improve the poster. [2]

.....

- (b) Give **one** feature of the software that could be used to suggest alternative words with a similar meaning. [1]

.....

- (c) Other than DTP software, state **two** other *types* of software that could be used in organising the auction. Give an example of how each could be used. [4]

Type of software 1

Example of use

.....

Type of software 2

Example of use

.....

- 2. Complete the sentences below by filling in the missing word in each case. [2]

(a) consists of raw facts and figures e.g. readings from sensors.

(b) is derived from information by applying rules to it.

3. A personal trainer keeps a record of the fitness levels of his clients on a computer database. Part of this database is shown below.

| Client No | Name | Activity | Gender | Fitness test score | Date of Birth |
|-----------|------------|----------|--------|--------------------|---------------|
| 474 | Davies S | Cycling | M | 6 | 12/12/78 |
| 387 | Khan S | Running | F | 11 | 04/09/72 |
| 210 | Jones R | Aerobics | M | 10 | 00/13/70 |
| 109 | Robolski A | Cycling | M | 12 | 15/09/80 |
| 078 | Evans L | Running | F | 13 | 17/04/82 |
| 321 | Jones W | Running | M | 9 | 04/07/79 |
| 045 | Begum T | Aerobics | F | 7 | 04/06/76 |
| 029 | Smith R | Running | F | 8 | 11/11/81 |
| 607 | Adams Y | Cycling | F | 5 | 19/03/69 |

- (a) 'Client No' is the keyfield. State the purpose of the keyfield. [1]

.....

- (b) The 'Gender' field contains coded data. Give **one** advantage of encoding the data. [1]

.....

.....

- (c) The personal trainer wants to find the details of all 'female cyclists'. Complete the table below to show how he can obtain this information from the database. [2]

| Fieldname | Logical operator | Search criteria |
|-----------|------------------|-----------------|
| | = | |

AND

| Fieldname | Logical operator | Search criteria |
|-----------|------------------|-----------------|
| | | |

(d) The personal trainer sorts the 'Fitness test score' into *descending* order. Whose name would appear at the top of the list? [1]

.....

(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]

.....

(ii) The computer database takes up less storage space in the leisure centre office.

Describe using examples, **two** other advantages to the personal trainer of keeping this data on a computer database. [4]

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

4. Many shops use POS (Point of Sale) systems commonly called *checkouts*.

(a) Give **one** input device found at the POS. [1]

(b) Give **one** output device found at the POS. [1]

(c) Barcodes contain items of data. **Tick (✓)** which **two** of the following are items of data **not** encoded in the barcode. [2]

| | Tick (✓) two boxes only |
|--------------------|-------------------------|
| Price | |
| Colour | |
| Country of origin | |
| Manufacturers code | |

(d) *In addition to cash and loyalty or bonus points* shoppers can pay for their goods at the POS in a variety of different ways.

(i) Give **three other** different ways shoppers can pay for their goods. [3]

Method 1

Method 2

Method 3

(ii) Give **three** reasons why *shops* give loyalty or bonus points to their customers. [3]

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5. A hotel has recorded details of monthly profit in the spreadsheet shown below.

| | A | B | C | D | E | F | G | H |
|----|-------|---------|--------|-------------|-----------|------|-------------|--------|
| 1 | Month | Income | Wages | Electricity | Telephone | Gas | Total costs | Profit |
| 2 | Jan | £6,000 | £3,500 | £500 | £100 | £0 | £4,100 | £1,900 |
| 3 | Feb | £5,000 | £3,500 | £450 | £100 | £50 | £4,100 | £900 |
| 4 | Mar | £7,000 | £3,500 | £410 | £100 | £0 | £4,010 | £2,990 |
| 5 | Apr | £8,000 | £3,500 | £400 | £100 | £120 | £4,120 | £3,880 |
| 6 | May | £9,500 | £3,500 | £350 | £100 | £200 | £4,150 | £5,350 |
| 7 | Jun | £10,050 | £4,500 | £300 | £100 | £100 | £5,000 | £5,050 |
| 8 | Jul | £11,000 | £4,500 | £300 | £100 | £50 | £4,950 | £6,050 |
| 9 | Aug | £12,000 | £4,500 | £300 | £100 | £0 | £4,900 | £7,100 |
| 10 | Sep | £9,000 | £3,500 | £320 | £100 | £120 | £4,040 | £4,960 |
| 11 | Oct | £5,000 | £3,500 | £350 | £100 | £200 | £4,150 | £850 |
| 12 | Nov | £4,500 | £3,500 | £400 | £100 | £150 | £4,150 | £350 |
| 13 | Dec | £9,000 | £4,000 | £500 | £100 | £200 | £4,800 | £4,200 |

(a) Which of the following formulas could be used to give the **Total costs** in Cell **G2**? [1]

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

(b) Give a suitable formula for working out the Profit in Cell **H2**.

= [1]

- (c) **Tick (✓)** which **two** of the following are *cell formatting* features used in *Column H*. [2]

| | Tick (✓) two boxes only |
|-------------|--------------------------------|
| Euros | |
| Currency | |
| Calculation | |
| Right Align | |

- (d) Give **two specific** advantages of using a spreadsheet to work out the profit. [2]

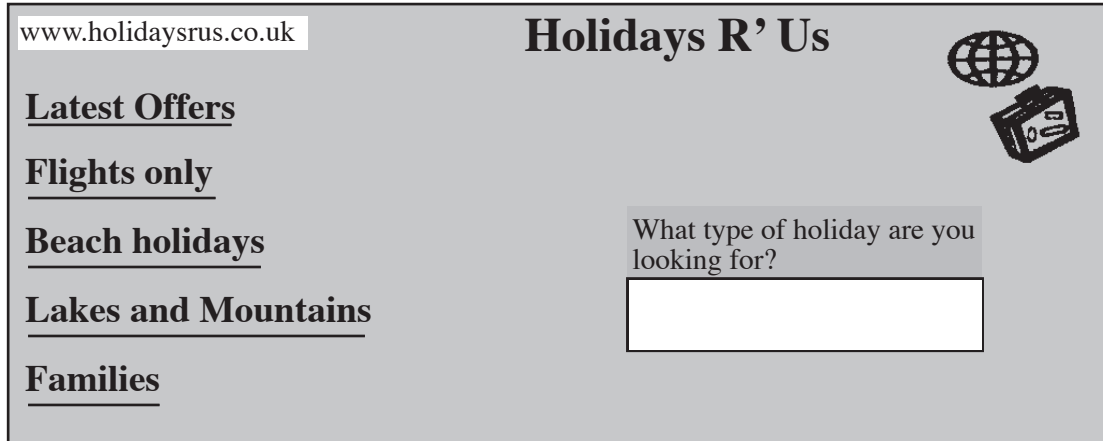
Advantage 1

.....
.....

Advantage 2

.....
.....

6. A travel company allows customers to use its website to book their own holidays.



(a) Give **two** methods of searching for a holiday on the website shown above. [2]

Method 1

Method 2

(b) Give **two** advantages of booking a holiday online. [2]

Advantage 1

Advantage 2

(c) The company contact detail 'www.holidaysrus.co.uk' is a URL (universal resource locator). It is made up of the name, type of company and country in the following way.

| | <i>name of organisation</i> | <i>domain code / type of organisation</i> | <i>country code</i> |
|-----|-----------------------------|---|---------------------|
| www | holidaysrus | co | uk |

Table 1 below shows typical *domain codes* and Table 2 shows *country codes* used in creating a URL.

i.e. **www.name.domain code.countrycode**

Table 1

| <i>Domain</i> | <i>Code</i> |
|-----------------------|-------------|
| Government department | gov |
| Charity | org |
| Company | co |

Table 2

| <i>Country</i> | <i>Code</i> |
|----------------|-------------|
| United Kingdom | uk |
| Germany | de |
| France | fr |
| Italy | it |

Write down a suitable URL for a holiday company called '*Holidayhomes*' based in *Italy* using the information given in the tables above. [1]

www.

7. Traffic organisations use simulation models to predict traffic flow on roads.

(a) What is a simulation model? [2]

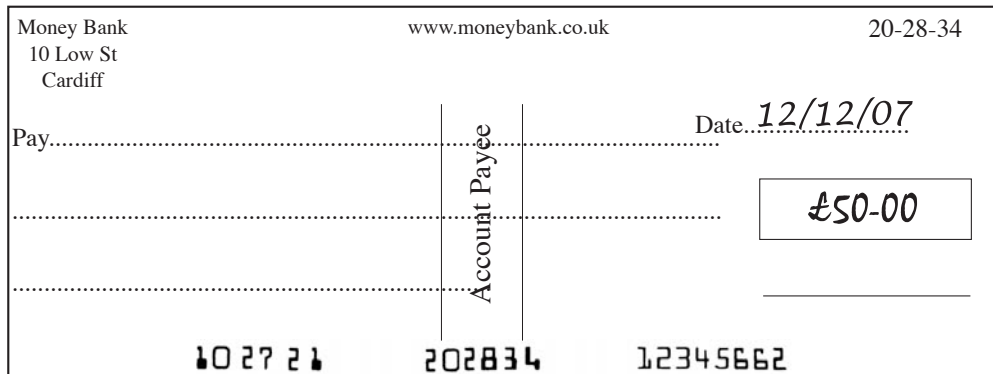
.....

(b) Give the advantages and disadvantages of using simulation models. [3]

.....

8. Numbers printed on the bottom of cheques by banks contain *encoded* data.

An example of these numbers is shown in bold on the cheque below.



(a) The customer has already written some essential items of data on the cheque shown above. Give **two** other items of data which must be written on the cheque *by the customer*. [2]

.....

(b) Give **two** other items of data already *encoded* on the cheque *by the bank*. [2]

.....

(c) Bank cards are used at automatic teller machines (ATMs) commonly called cashpoints.

The magnetic strip on the back of a credit card contains the PIN (Personal Identification Number).



(i) Why does the customer need a PIN number? [1]

.....
.....

(ii) Give **two** *other* items of data stored in the magnetic strip. [2]

.....

(d) Describe **three** *different* effects the introduction of computers has had upon *jobs in banking*. [3]

Effect 1

.....
.....

Effect 2

.....
.....

Effect 3

.....
.....

9. A school uses a computer network.

(a) What is a computer network? [1]

.....

(b) This school has set up a website and uses email (electronic mail) for contacting other schools.

(i) Give **one** advantage of email. [1]

.....

(ii) *Other than email*, give **two** different uses of the school's website. [2]

Use 1

Use 2

(c) The school gives user names to pupils. Pupils then create their own passwords in order to use the computer network.

Give **two** rules pupils should follow when creating their passwords. [2]

Rule 1

.....

Rule 2

.....

10. Anna buys a notebook computer which has a GUI (Graphical User Interface) as shown below.



(a) Give **two** features of a GUI which will help her to use the computer. [2]

Feature 1

Feature 2

(b) Anna’s computer system also has a *wireless* keyboard, printer and mouse. Give **one** advantage of ‘*wireless*’ technology. [1]

.....
.....

(c) Anna’s parents are worried about the *health hazards of using a computer*. Give **two** possible health hazards and for each give a method of prevention. [4]

Health hazard 1

Prevention

.....

Health hazard 2

Prevention

.....

(d) Anna’s parents are also worried about *dangers that children could encounter when using the Internet*.

Identify **two** possible *dangers that children* could encounter when using the Internet and describe methods which could be used to reduce these risks. [4]

.....

.....

.....

.....

.....

.....

.....

(b) Describe **two** different ways data can be *accidentally* destroyed and describe in detail a *different* method of prevention for each. [4]

Dotted lines for writing answer

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