

**MARK SCHEME for the May/June 2013 series**

**0417 INFORMATION AND COMMUNICATION  
TECHNOLOGY**

**0417/11**

Paper 1 (Written), maximum raw mark 100

This mark scheme is published as an aid to teachers and candidates, to indicate the requirements of the examination. It shows the basis on which Examiners were instructed to award marks. It does not indicate the details of the discussions that took place at an Examiners' meeting before marking began, which would have considered the acceptability of alternative answers.

Mark schemes should be read in conjunction with the question paper and the Principal Examiner Report for Teachers.

Cambridge will not enter into discussions about these mark schemes.

Cambridge is publishing the mark schemes for the May/June 2013 series for most IGCSE, GCE Advanced Level and Advanced Subsidiary Level components and some Ordinary Level components.

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- 1 A CRT Monitor [1]  
 B TFT monitor [1]  
 C graph plotter [1]  
 D multimedia projector [1]




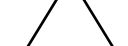
- 2 DVD RAM laser printer magnetic disc  
 number pad speakers trackerball [2]

3

	True	False	
Presentation software is used to create slide shows.	✓		[1]
All laptop computers have touch screens.		✓	[1]
Spreadsheet software can be used to produce databases.	✓		[1]
An Internet browser is used by web designers to test web pages.	✓		[1]
Motors are input devices.		✓	[1]

- 4 (a) Double data entry is a form of verification. [1]  
 (b) A temperature sensor is used to input data in a computer-controlled greenhouse. [1]  
 (c) DTP software is used to create magazines. [1]  
 (d) A length check is a validation rule. [1]  
 (e) A graphics tablet is used to input freehand drawings to a computer. [1]

- 5 Three from:  
 Temperature  
 Blood pressure  
 Glucose level  
 Rate of respiration  
 Level of oxygen in the patient's blood [3]

- 6
- |                 |   |  |     |
|-----------------|---|--|-----|
| Fixed hard disc |  | To transfer files from one computer to another | [1] |
| DVD ROM         |  | Batch processing applications                  | [1] |
| Pen drive       |  | To store operating systems                     | [1] |
| Magnetic tape   |  | Publishers distributing encyclopaedias         | [1] |

- 7
- |                  |           |                  |            |
|------------------|-----------|------------------|------------|
| <i>PENDOWN</i>   |           | <i>BACKWARD</i>  | <u>110</u> |
| <i>LEFT</i>      | 90        | <i>PENDOWN</i>   |            |
| <i>REPEAT</i>    | <u>5</u>  | <u>REPEAT</u>    | 8          |
| <u>FORWARD</u>   | 40        | <i>FORWARD</i>   | <u>50</u>  |
| <i>RIGHT</i>     | <u>72</u> | <u>RIGHT</u>     | 45         |
| <u>ENDREPEAT</u> |           | <i>ENDREPEAT</i> |            |
| <i>PENUP</i>     |           |                  |            |
- [8]

- 8 **Four** matched pairs from:
- Chip reader  
Bank/credit card account information/supermarket code
  - Bar code reader  
Information from a product label/product identity number
  - Electronic scales  
Weight of an item
  - Touch screen  
Identification of product
  - Number pad  
Bar code number when bar code reader cannot read bar code/the number of items
  - Magnetic stripe reader  
Information about the customer
- [8]

9

	<b>True</b>	<b>False</b>
Using a password always prevents unauthorised access to data		✓
A strong password is one that is difficult for a hacker to guess	✓	
Giving your password to a friend is a good idea in case you forget it.		✓
If you forget your user id you can still gain access to data using your password.		✓

[4]

10 (a) **Four** from:

- Data/cheques are collected together during the course of the day
- Data/cheques are then processed all at once
- Data/cheques are processed overnight
- Dank accounts updated following morning
- No human intervention

[4]

(b) **Three** from:

- It might lead to double booking
- Customer would not be sure booking has been successful
- Would take a long time to receive confirmation/ticket
- Processing would take a long time...
- ... would cost company money

[3]

11

	✓
More technical staff have been employed	✓
Car workers can have more breaks	
Car workers have to lift all the heavy parts	
Car workers get paid less	
Car workers have been made unemployed	✓
Car workers have had to be retrained	✓
Work areas are dirtier	
There are fewer manual tasks to do	✓

[4]

12 (a) **Three** from:

Either  
 It looks through (the cells) A2 to B12 in Sheet 1  
 Compares with the contents of C8/RUS (in Sheet 2)

Or  
 It reads the contents of C8/RUS (in Sheet 2)  
 Compares with the contents of A2:B12 in Sheet 1

until it finds the first matching value  
 It records the corresponding value from column 2 of the range A2:B12 in Sheet 1  
 C8 (in Sheet 2) contains RUS  
 Produces /records Russia

[3]

(b) America

[1]

(c) **Four** from:

It reads the contents of D8 (female)  
 Sees if it is male  
 It isn't, so it ignores the next condition  
 It reads the contents of E8 – 22.01  
 Sees if it is greater than the contents of D4 – 20.70  
 It is, so it sets produces/records "yes"

[4]

(d) No

[1]

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(e) **Three** from:

- Some situations are/real thing might be dangerous/ model is less dangerous
- Cost of building real thing may be expensive
- Real thing may waste raw materials/natural resources
- Easier to change/modify
- Costs less to change data/variables
- The real thing may be impossible to access/create
- Real thing may be on too vast a scale
- It may take a long time to obtain results from the real thing
- Extremes which can't be tested in real life can be tested using models [3]

13 (a)

<i>Field name</i>	<i>Data type</i>	
<b>Hard_disc_size</b>	<i>Integer</i>	[1]
<i>Separate_Number_pad</i>	<b>Boolean</b>	[1]
<b>Cost</b>	<b>Currency</b>	[2]
<b>Type_of_Computer</b>	<b>Boolean</b>	[2]

(b) **Five** from:

- Direct changeover – new system replaces existing system immediately/overnight
- Parallel running – new system runs alongside/together with existing system
- Parallel running – there is always the old system to fall back on in the event of the new system failing/information is not lost/always a second copy/Direct changeover – if things go wrong lose all data/old system is not available
- Direct changeover – benefits are immediately available
- Parallel running is more expensive to implement than direct changeover....
- ....more expensive as two sets of workers have to be employed
- Direct changeover – less likelihood of errors as system will have been fully tested
- Direct changeover is a quicker method of implementation than parallel running
- Direct changeover – training is more difficult to organise
- Parallel running – training can be gradual [5]

14 **Three** from:

- A CLI only allows you to type in commands
- With CLI syntax has to be precise
- Commands difficult to edit once entered
- Have to learn a lot of commands exactly/have to be familiar with the commands [3]

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**15 Two** matched pairs from:

Companies selling their software/games  
 Cheap method of production/quick to access data

Making personal backups/transferring data (from one computer to another)  
 Cheap to buy/quicker to retrieve data/expensive to buy tape drives

Downloading/Copying media such as films/music  
 Faster/Easier to access individual scenes/tracks/ better or higher quality [4]

**16 Normal data** – data within a (given) range/appropriate for that data type [1]  
 Example – any wage between \$100 and \$500 [1]

Abnormal data – data outside the range/of the wrong data type [1]  
 Example – any wage less than \$100 or greater than \$500 or text example [1]

Extreme data – data on the boundaries of the range [1]  
 Example – \$100 or \$500 [1]

**17 Four** from:

Biometric methods – unique so only authorized users will have access  
 Encryption makes it difficult for unauthorised users to read data  
 Firewall – makes it difficult for unauthorised computers to access the system  
 Disconnect records computer from network – limit access physically  
 Access levels – only users with appropriate permissions can access data [4]

**18 Six** from:

Blog is public/anyone can see it  
 Blog is online diary/personal opinions  
 Viewers can only add comments on blogs/authors can reply to comments  
 Only author can edit blog  
 Social networking sites might only be available to friends of user  
 Social networking site enable users to send messages to small group of 'friends' to arrange meetings  
 Friends can respond more quickly to messages within the group to confirm availability  
 Easier to share photographs with others  
 Social networking sites can lead to seclusion from society  
 Social networking sites can lead to cyber bullying [6]