CAMBRIDGE INTERNATIONAL EXAMINATIONS

International General Certificate of Secondary Education

MARK SCHEME for the May/June 2013 series

0417 INFORMATION AND COMMUNICATION TECHNOLOGY

0417/11 Paper 1 (Written), maximum raw mark 100

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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

PENDOWN		*BACKWARD*	**110**
LEFT	*90*	*PENDOWN*	
REPEAT	**5**	**REPEAT**	*8*
FORWARD	*40*	*FORWARD*	**50**
RIGHT	**72**	**RIGHT**	*45*
ENDREPEAT		*ENDREPEAT*	
PENUP			

[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

	True	False
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]

(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)

Field name	*Data type*	
Hard_disc_size	*Integer*	[1]
Separate_Number_pad	**Boolean**	[1]
Cost	**Currency**	[2]
Type_of_Computer	**Boolean**	[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]

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]