

CAMBRIDGE INTERNATIONAL EXAMINATIONS**Cambridge International General Certificate of Secondary Education****MARK SCHEME for the October/November 2015 series****0417 INFORMATION AND COMMUNICATION
TECHNOLOGY****0417/12**

Paper 1 (Written), maximum raw mark 100

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- 1 Flip
Crop
Resize
Use of word/text wrap
Change of font type/face
Change of font size

[6]

2

Use	Modelling ✓	Database ✓	Word Processing ✓	
Writing a letter			✓	[1]
Flight simulation	✓			[1]
Storing student records in a school		✓		[1]
Producing a business card			✓	[1]

3

Use	Mainframe ✓	Laptop ✓	Desktop ✓	
Entering data from a Biology survey while out of school		✓		[1]
Massive transactions which need the use of many CPUs	✓			[1]
Students who need to transport their computer from home to use in school		✓		[1]
Personal use with better performance at lower cost			✓	[1]

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4

Company	Parallel running ✓	Pilot running ✓	Direct changeover ✓	
A company with several branches wishes to test a new system in one branch only.		✓		[1]
A small company that can only afford to spend a small amount of money on implementing the new system.			✓	[1]
If the whole system fails, the company wishes to return to the original existing system.	✓			[1]
A company that wants the quickest method of implementation.			✓	[1]

- 5 (a) The inbuilt device which moves the cursor when using a laptop is called **a touch pad** [1]
- (b) The device used for selecting an icon so a bar code label can be printed in a supermarket is called **a touch screen** [1]
- (c) The device used for controlling a pointer on a screen when the user has limited motor skills is called **a trackerball** [1]

6 **Three** matched pairs from:

FORWARD n/BACKWARD n
Move n units forward/Move n units backward

RIGHT t/LEFT t
Turn right t degrees/Turn left t degrees

REPEAT n
Repeat the **following** instructions n times

END REPEAT
Finish the REPEAT loop [6]

7 (a) **Three** from:

Temperature sensor
Light sensor
pH sensor
O₂ sensor
CO₂ sensor

[3]

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(b) Two from:

Need to know values in unpolluted part of river
 Need to know values in polluted part of river
 Need to place sensors in river above factory
 Need to place sensors in river below factory

[2]

(c) Five from:

The sensors feed back/send data to microprocessor/computer
 Data is converted from Analogue to Digital/sent through an ADC
 Readings from above the factory are compared with those from below factory...
 ...by the computer/microprocessor
 Differences/results are printed out
 Graphs are automatically produced by computer showing values from below and above factory...
 ...plotted against time
 Process is continuous

[5]

8 (a) Three from:

To save printing costs of reports
 To ensure test results, etc. are received by parents
 To allow immediate feedback to parents after tests/exams
 To keep parents up to date with child's progress/targets

[3]

(b) User id – in order to identify the user to the system/in order for system to assign privileges [1]

Password – in order to allow access to the system if it matches user name

[1]

9 Four from:

Access to the internet
 Email address
 Router to connect to the internet
 Domain name to have own website
 Email security software
 Web space to create own website
 Storage space to save data in the cloud
 DNS service to convert URLs to IP addresses
 Firewall to block unauthorised traffic

[4]

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10 (a) C5 [1]

(b) 8 [1]

(c) =b2*c2 [1]

(d) =sum(d2:d6)
 Sum() [1]
 D2:D6 [1]

(e) Three from:

Easier to modify/change data/variables
 Costs less to change data/variables
 The real thing may be impossible to create
 You can test predictions more easily/model can make predictions more accurately
 You can ask many what if questions which would be impractical in real life
 Results are obtained more quickly [3]

11 Three from:

To cause data to be scrambled/encoded
 Protects sensitive data...
 ...from being understood if it falls in to the wrong hands
 Only user/computer with key can understand data [3]

12 (a) Price – currency/fixed point decimal [1]
Length – integer [1]

(b) Two from:

Set it up as a text field
 With drop-down menu/lookup table...
 ...containing A, B, C and Free
 OR
 Create/Set up a validation rule
 Set parameters to A OR B OR C OR Free [2]

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(c) Six from:

Create a query using data in table
 Select fields to be printed...
 ...select Film_name, Director, Price (\$) and Length (min)
 Set up query design
 Length (min) > 110
 Save the query
 Create report using this query
 Insert header/footer
 Select appropriate font/font size for heading
 Select appropriate font/font size for field names
 Select appropriate font/font size for field contents

[6]

13 (a)

Word processor	
Spreadsheet	
Rules base	✓
Search engine	
Inference engine	✓
Control software	
Knowledge base	✓
Presentation software	

[3]

(b) Three from:

Prospecting
 Tax
 Careers
 Chess games
 Animal/plant classification/identification

[3]

14 (a) Four from:

Users of the current system will be interviewed
 Users of the current system will be asked to complete questionnaires
 Users of the current system will be observed using the system
 Existing documents will be examined
 Management will be interviewed
 Management will be asked to complete questionnaires

[4]

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(b) **Four** from:

Inputs of the current system
 Outputs from the current system
 Processing in the current system
 Problems/limitations with the existing system/improvements required
 The user requirements
 The information requirements

[4]

15 Three from:

Electrocution by touching loose/bare wires/spilling liquids on electrical contacts
 Tripping and falling over trailing wires or cables
 Physical injury to feet/legs, etc. caused by heavy equipment falling
 Fire caused by too many plugs in multisolet and thereby overheating/overheating of equipment

[3]

16 Seven from:

Advantages

No danger of accessing inappropriate information
 Relevant information can be found quite quickly
 Don't have to worry about having to have internet connectivity/computer/phone line/modem
 Book will be less biased/more reliable as teacher has recommended it
 Index makes searching more efficient

Disadvantages

Book has limited amounts of information
 Can be slower to find relevant information than using a search engine
 Books can go out of date quickly/difficult to update a book
 Books don't have multimedia to help explain information
 Easier to detect plagiarism

A mark is available for a reasoned conclusion

[7]

17 Three from:

It is possible to prevent employees accessing undesirable websites
 They can ensure that available information is specific to their needs
 It is easier to make sure confidential messages stay within the company
 There is less chance of company computers being hacked

[3]

18 Three from:

In case original data is accidentally deleted
 In case data is maliciously deleted
 In case original data is corrupted
 To recover a previous version of a file

[3]

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19 Three from:

Putting wheels on cars
Painting car bodies
Welding parts on a car body
Carrying car windscreens/doors
Moving goods in an automatic warehouse
Placing engine block into body
Installing transmission system

[3]