

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]

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) [1]
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]

(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]