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

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 October/November 2015 series for most Cambridge IGCSE®, Cambridge International A and AS Level components and some Cambridge O Level components.

® IGCSE is the registered trademark of Cambridge International Examinations.

www.dynamicpapers.com

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]

© Cambridge International Examinations 2015

www.dynamicpapers.com

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
O_2 sensor
CO_2 sensor [3]

www.dynamicpapers.com

Page 4	Mark Scheme	Syllabus	Paper
	Cambridge IGCSE – October/November 2015	**0417**	**12**

(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 <u>automatically</u> 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]

www.dynamicpapers.com

Page 5	Mark Scheme	Syllabus	Paper
	Cambridge IGCSE – October/November 2015	0417	12

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]

(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]

www.dynamicpapers.com

Page 7	Mark Scheme	Syllabus	Paper
	Cambridge IGCSE – October/November 2015	0417	12

(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 multisocket 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]

www.dynamicpapers.com

Page 8	Mark Scheme	Syllabus	Paper
	Cambridge IGCSE – October/November 2015	**0417**	**12**

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]