

**CAMBRIDGE INTERNATIONAL EXAMINATIONS**

Cambridge International General Certificate of Secondary Education

**MARK SCHEME for the October/November 2015 series**

**0417 INFORMATION AND COMMUNICATION  
TECHNOLOGY**

**0417/13**

Paper 1 (Written), maximum raw mark 100

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<b>Page 2</b>	<b>Mark Scheme</b>	<b>Syllabus</b>	<b>Paper</b>
	<b>Cambridge IGCSE – October/November 2015</b>	<b>0417</b>	<b>13</b>

**1 Six from:**

Indent  
 Bold  
 Subscript  
 Superscript  
 Underline  
 Text highlight  
 Italic  
 Fully justified  
 Border

[6]

**2**

<b>Use</b>	<b>Web cam</b> ✓	<b>Keyboard</b> ✓	<b>Scanner</b> ✓	
Applications where text has to be created rather than copied		✓		[1]
Inputting hard copy documents directly into a computer			✓	[1]
Inputting moving pictures from a fixed position into a computer	✓			[1]
Entering text into a word processing document		✓		[1]

**3 MICR –**

Magnetic Ink Character Recognition/Reader

[1]

Used for processing bank cheques/Reads the characters at the bottom of bank cheques

[1]

**OMR –**Optical Mark Recognition/Reader/position of pencil/pen marks are read by scanner/Reader

[1]

Used for processing exam papers/school registers/lottery/multiple choice questionnaires/positions of marks identified on exam papers/school registers/lottery/multiple choice questionnaires

[1]

**4**

	<b>Numeric</b> ✓	<b>Date</b> ✓	<b>Text</b> (alphanumeric) ✓	
A student's name			✓	[1]
How many times a student has been late to a lesson	✓			[1]
The amount of money it costs to travel to school	✓			[1]
When the end of term is		✓		[1]

Page 3	Mark Scheme	Syllabus	Paper
	Cambridge IGCSE – October/November 2015	0417	13

- 5 (a) The software used to find information on the internet is **a search engine [1]**
- (b) The software which is a component of an expert system is **an inference engine [1]**
- (c) The type of software used to create financial models is **a spreadsheet [1]**
- 6 **Three** from:
- Is a means of identifying yourself to a system  
 Something you know such as PIN/password  
 Something belonging to you such as a bank card  
 Something unique about you such as a biometric feature **[3]**
- 7 **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 which would cost company money **[3]**
- 8 Move n units forward **[1]**
- Repeat the following instructions n times **[1]**
- Turn left t degrees **[1]**
- Turn right t degrees **[1]**
- Lift the pen **[1]**
- Lower the pen **[1]**
- 9 (a) Temperature **[1]**  
 Time **[1]**
- (b) **Five** from:
- The sensor feeds back data to computer  
 Data is converted from Analogue to Digital  
 Readings are stored in a spreadsheet/software package  
 Graphs are automatically produced by computer...  
 ...plotted against time  
 Calculations performed on spreadsheet to show rate of cooling  
 Graphs examined to see general overview of rate of cooling **[5]**

Page 4	Mark Scheme	Syllabus	Paper
	Cambridge IGCSE – October/November 2015	0417	13

**10 Four** from:

WiFi technology enables local area network...

... and Internet connections

Using WiFi, a laptop or desktop computer can connect to a network's wireless router

Bluetooth connects two devices together

Usually Bluetooth peripherals are powered by batteries that need to be charged or replaced

WiFi covers a larger distance than Bluetooth

WiFi requires more than ten times more bandwidth than Bluetooth

**[4]****11 Six** from:

Optical discs such as CDs DVDs and Blu-ray discs...

...are read from and written to using a laser beam

Magnetic disks are read from and written to using read/write heads

Optical discs are more portable

Magnetic disks are more likely to spike

Optical discs are cheaper to buy

Magnetic disks store more data

Optical discs have slower access times

Optical discs have slower transfer rates

Optical discs can be more easily lost/stolen

Optical discs can be more easily scratched

Both store videos, music

Both use direct access

**[6]****12 Six** from:

Initial cost of hardware/software is expensive

Fewer staff needed – less spent on wages

Fewer shops needed – less spent on rates/rent/utilities

Potentially larger customer base

Need to retrain staff

Less customer loyalty/loss of customers/more difficult to sell other services/products due to lack of personal touch

Costs of system maintenance

Greater costs due to more delivery staff/vans

**[6]****13 (a) Three** matched pairs:

Interview

Manager

Questionnaire

Drivers

Observation

Secretaries

**[6]**

Page 5	Mark Scheme	Syllabus	Paper
	Cambridge IGCSE – October/November 2015	0417	13

(b) **Three** from:

Data type for each field  
 Appropriate field names  
 Validation rules  
 Field lengths  
 Field descriptions

[3]

14 (a) **Four** from:

Tests to see whether the condition  $A1 > 12$  is true or false  
 If the condition  $A1 > 12$  is true the function will return “strong”  
 If the condition  $A1 > 12$  is false, the function will test if  $A1 > 6$  is true or false  
 If the condition  $A1 > 6$  is true the function will return “medium”  
 If the condition  $A1 > 6$  is false the function will return “weak”

[4]

- (b) Should be  $A1 \leq 6$   
 Should be  $A1 \leq 12$   
 Should be “strong” (second speech mark missing)  
 Should be two right-hand brackets

[1]

[1]

[1]

[1]

(c) **Three** from:

Simulations  
 Mathematical models  
 Civil engineering models  
 Flight/pilot simulation/training  
 Design of fairground rides  
 Traffic control  
 Building fire simulation  
 Weather forecast models  
 Population modelling

[3]

15 (a) **Four** from:

Can use the final part of a URL to identify reliability  
 $.ac$ ,  $.gov$ ,  $.org$  are usually fairly reliable  
 If information matches that from reliable sites or reliable/authenticated text books  
 If responsible bodies have endorsed the site information will be reliable  
 If it has links to other reliable sites then information will be reliable  
 If site has testimonials it is likely to be reliable  
 If the author’s credentials are good it is likely to be reliable

[4]

(b) **Three** from:

If site has excessive advertising it could be unreliable  
 If the advertising is related only to its own products it could be unreliable  
 If the date of the last update was a long time ago it is likely to be unreliable  
 If it has links to other unreliable sites it could be unreliable

[3]

Page 6	Mark Scheme	Syllabus	Paper
	Cambridge IGCSE – October/November 2015	0417	13

(c) Four from:

- An intranet is a computer network
  - Exists usually within one organisation/school
  - Meets the internal needs of an organisation/school
  - Can be expanded to become an extranet
  - Intranet is private
  - Intranets tend to be policed/managed
  - Intranet has an extra layer of security
  - Data found in an intranet is likely to be more relevant to the students' needs
- [4]

16 Four from:

- Easy to keep in immediate contact with friends/make new friends
  - Easy to communicate to more than one friend/to communicate with people overseas
  - Can search for people who you've fallen out of touch with
  - Easy to arrange meetings/visits to cinemas/theatre
  - Can share photographs/videos/images/opinions/views
- [4]

17 Three matched pairs from:

- Headaches/eyestrain  
From staring at screen continuously
  - RSI in fingers  
From continual typing/repetitive clicking of mouse
  - RSI in wrists  
From repetitive clicking of mouse/continual typing
  - Backache  
From sitting in same position all day
- [6]

18

	✓	
A wiki is an example of a spreadsheet.		
A wiki is quicker to search than a database.		
Wiki entries are in chronological order.		
A wiki can have several contributors.	✓	[1]
Wikis are always a reliable source of information.		
Wikis can be edited using a web browser.	✓	[1]
Anybody can create a wiki.	✓	[1]
Wikis never contain hyperlinks.		