

CAMBRIDGE INTERNATIONAL EXAMINATIONS

Cambridge International General Certificate of Secondary Education

MARK SCHEME for the October/November 2015 series

**0417 INFORMATION AND COMMUNICATION
TECHNOLOGY**

0417/11

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.

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- 1
1. It minimises the window
 2. It reduces the size of the window
 3. It closes the window
 4. It goes to the home page
 5. It goes to favourites/feeds/history/adds to favourites
 6. It allows you to search

[6]

2

Application	Graph plotter ✓	Laser printer ✓	Dot matrix printer ✓	
Rapid, high quality and high volumes of output		✓		[1]
CAD where large printouts are required such as A0	✓			[1]
Industrial environments such as car repair companies			✓	[1]
Printing on multipart forms			✓	[1]

3

Application	Storage method	
Theatre booking systems	Hard disc	[1]
Storing photographs in a camera for printing at a later time	Flash memory card	[1]
The most portable device used to transport data from computer to computer	Pen drive	[1]
A disc used to sell music albums without video	CD ROM	[1]

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4

Use	Modelling ✓	Control ✓	Measurement ✓	
The maintaining of growing conditions in a greenhouse		✓		[1]
Simulating car driving	✓			[1]
Monitoring the environment			✓	[1]
Using what ifs	✓			[1]

5 (a) The input device used in flight simulation is **a joystick** [1]

(b) The type of memory used to store the work that the user is currently working on is **RAM** [1]

(c) A medium used to backup data is **magnetic tape** [1]

6 **Three** matched pairs from:
FORWARD n
Move n units forward

BACKWARD n
Move n units backward

RIGHT t
Turn right t degrees

LEFT t
Turn left t degrees [6]

7 (a) Temperature [1]
Light [1]

(b) **Five** from:
– Light source placed one side of/outside the beaker
– Light sensor placed other side of/inside the beaker
– Temperature sensor placed inside the beaker
– Sensors connected to the ADC/computer
– Heat source placed below beaker until colour change occurs
– The sensors feed back data to microprocessor/computer
– Data is converted from Analogue to Digital
– Readings are printed out/displayed/ Graphs are automatically produced by computer...
– ...light plotted against temperature/time [5]

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8 LAN

Two from:

- LAN is a Local Area Network
- LAN covers a small area/one building
- A school network is a LAN

WAN

Two from:

- WAN is a wide area network
- WAN covers a large geographical area/worldwide
- The Internet is a WAN
- A WAN consists of connected LANs

WLAN

Two from:

- WLAN is a wireless local area network
- Uses wireless technology to transmit data
- Uses Wireless Access Points (WAPs) connected to a wired network

[6]

9

	✓
Once bought robots do not have to be paid	
They have to do less hazardous jobs	✓
They don't need to lift heavy loads	✓
They can become deskilled	
It can lead to unemployment	
They work in a cleaner/healthier working environment	✓
They can work whenever they want	
They get a massive pay rise	

[3]

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10 Seven from:

- The customer is asked to type in their PIN
- The ATM checks to see if the card is valid/in date/stolen
- The customer is asked which language/currency they require
- The bank account details are read from the chip
- Customer is asked if they want a receipt
- The typed PIN number is compared with that stored in the chip
- If they are the same the transaction proceeds
- If they are not the same the customer is asked to re-enter PIN
- If three failed attempts transaction rejected and card withheld
- The customer is asked which service is required
- The customer is asked how much money they want to withdraw
- The amount is checked against the card limit
- If transaction is authorised, transaction is completed/if transaction is not authorised, transaction is rejected

[7]

11 Three from:

- It is a form/type of blog
- Shorter in length than a normal blog
- Consist of short sentences
- Posts are called microposts
- Accessed by subscribers

[3]

12 (a) 8

[1]

(b) 5

[1]

(c) E3000

[1]

(d) Computer_type

[1]

(e) Format check

Must have one letter ...

... followed by 4 digits

[1]

[1]

[1]

(f) Two from:

- Data in RAM can be lost if computer shuts down/volatile
- Data in RAM can be corrupted
- Data in RAM can be accidentally deleted
- RAM is relatively very expensive per unit of memory

[2]

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- 13 (a)** Interview [1]
 Can change questions in light of previous answers/interviewer can detect body language [1]
- Questionnaire [1]
 Quicker to get every worker's response/easier to collate responses [1]
- Examining documents [1]
 Can see exact details of inputs and outputs [1]
- (b) Three** from:
- Design of data capture forms
 - Design of screen layouts
 - Design of report layouts
 - Design of screen displays
 - Design of validation routines
 - Design of data/file structures
 - Choice of hardware
 - Choice of software [3]
- (c) Five** from:
- User documentation needs to be provided
 - This will help people use various features of the new system/so users will know/learn how to use the system/learn how to deal with errors
 - Features such as how to save/print/enter data/troubleshooting/FAQs, etc. need to be provided
 - Technical documentation needs to be provided
 - This will help a programmer or systems analyst to upgrade the system
 - This will help a programmer or systems analyst to modify the system
 - Will contain technical elements such as program listing/flowcharts/lists of variables, etc. [5]
- 14 Four** from:
- Place/organise in folders
 - Sort the emails
 - Flag for importance
 - Delete from phone
 - Delete from server
 - Search/filter emails
 - Archive emails [4]

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15 Three matched pairs from:

A hub

Broadcasts data to all computers/devices in a network

A bridge

Passes data to another network

A switch

Passes data to specific computers/devices in a network

A proxy server

Retrieves web pages and passes them to the computer that requested it/caches web pages [6]

16 Six from:

Advantages

- More portable than PC/laptop
- Can access internet in most places if they are part of a phone plan unlike PC/laptop
- Larger screen area than smartphones
- Carry resources round with them

Disadvantages

- Smaller screen area than laptop/PC
- Touch screen so keyboard can be more difficult to use compared to laptop/PC
- Not as portable as smartphone
- Cannot access internet in as many places if they are not part of a phone plan
- More difficult to produce complex worksheets than PC/laptop

[6]

17 Eight from:

- DVDs are used to hold very large files several Gb
- DVDs used to store films/movies
- DVD RWs useful for keeping generations of files
- DVDs discs can be used to store computer data
- DVD ROM used for applications which require the prevention of deletion of data
- DVD ROMs used by software companies for distributing software programs and data
- DVD ROMs used by film/movie distributors
- DVD R used in applications which require a single 'burning' of data
- DVD RW used for applications which require the updating of information/record over old data
- DVDs have between five and ten times the capacity of CDs
- DVD RAM has the same properties as DVD RW but with quicker access
- DVD RAM data can be overwritten more easily
- DVDs are portable/can be transported from one computer to another
- DVD ROMs cannot have data changed

[8]