



General Certificate of Secondary Education
2011

Information and Communication Technology

Full Course

Paper 1
Higher Tier

[G5803]

MONDAY 13 JUNE, AFTERNOON

**MARK
SCHEME**

- 1 (a) B Software designed to damage the computer [1]
- (b) B The Computer Misuse Act [1]
- (c) A The Data Protection Act [1]
- (d) B It cannot be erased [1]
- (e) C Stores data when it is being copied [1]
- (f) A Are written using HTML and may contain hyperlinks [1]
- (g) C The buying and selling of goods and services via the Internet [1]
- (h) D When text flows automatically around a graphic [1]
- (i) B Reduce the number of web pages returned in a search [1]
- (j) C Monitor [1]

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2 (a) Merged [1] or centred [1] or centred across selection [1] [1]

AVAILABLE MARKS

(b)

2	ITEM	Quantity	Cost	Total Cost	% Discount	Discount £	Total Payable
3	Airporter Bus Ticket	15	£20.00	Not Sum B3*C3	10%	Not Sum D3*E3 Or D3*10% Or D3*10/100 Or D3*0.1 D3/10	Accept Sum D3-F3
				[1]		[1]	[1]

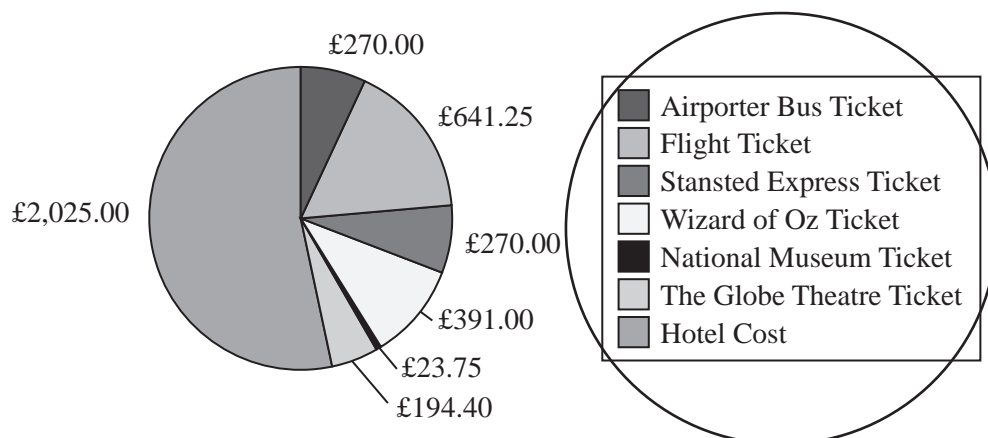
[3]

(c)

Validation Rule	Tick
>0 and <100	
>=0 and <=100	✓
<0 and >100	

[1]

(d) (i)



[1]

(ii) Identifies data/segments [1]

To show what each part of the chart represents [1]

It shows the patterns or colours that are assigned to the data series.

A key to show what each part represents [1]

[1]

(iii) Cell range 1 A3:A9 [1]/A2:A9 [1]

Cell range 2 G3:G9 [1] G2:G9 [1]

Instead of (:) accept (,), (-), (to)

(A2), A3, A4, A5, A6, A7, A8, A9

(G2), G3, G4, G5, G6, G7, G8, G9

[2]

(iv) **One** from: Know the exact values of each sector [1]

Additional/more information about the data value is provided. [1]

Do NOT accept easier to understand

(v) **One** from:

The cost of each item on the list [1]

The cost of any particular(named) item on the list [1]

The most expensive/cheapest/comparative cost [1] [1]

11

3 (a) Do NOT accept expansion of acronym

CC – recipients see the email address of all recipients [1]

BCC – recipients see only their own email address [1]

– don't see anyone else's email address [1] [2]

(b) Browse...(use windows/menus/dialog boxes/buttons to) locate/pick/select/choose/click on the file [1]

Attach...add the file (to be included) in the email [1] [2]

(c) Compress the folder/Zip the folder and attach as one file [1]

Attach the files individually to the email [1]

Send 10 separate emails [1] [2]

6

- 4 (a) **Two** from:
 Bitmaps use pixels [1]/Pixels can be edited [1]
 Bitmaps are large in size [1]
 Bitmaps become pixelated if the size is changed [1]
 Not a compressed file format [1] [2]

(b)

Statement	Tick
Resize allows the user to change the height and width of the picture.	✓
Compress Pictures will increase the storage space required for the pictures.	
Compress Pictures will decrease the storage space required for the pictures.	✓
Resize allows the user to delete part of the picture.	

[2]

- (c) smaller filesize [1]/less time to load webpage or picture [1]/take up less web space [1] [1]

5

5 (a)

Task	Software
Perform financial calculations on customer data.	Select ONE only <input type="checkbox"/> Database <input checked="" type="checkbox"/> Spreadsheet <input type="checkbox"/> Desktop Publishing <input type="checkbox"/> Email
Store customer records without repeating data.	Select ONE only <input checked="" type="checkbox"/> Database <input type="checkbox"/> Spreadsheet <input type="checkbox"/> Desktop Publishing <input type="checkbox"/> Email
Create a flyer to advertise the company.	Select ONE only <input type="checkbox"/> Database <input type="checkbox"/> Spreadsheet <input checked="" type="checkbox"/> Desktop Publishing <input type="checkbox"/> Email

[3]

- (b) (i) Any **two** from:
 text/graphics [1]
 animation [1]
 video [1]
 sound [1]

[2]

- (ii) **Two** from:
 Looping [1] timings/timer [1] browse at kiosk [1]
 (Custom)Animation [1] rehearse timing [1]

[2]

- (iii) A piece of **software/program** [1]
 which helps the user **step by step** [1]/through a series of options/
 screens [1]/to produce an end product [1]/which gives the user step
 by step instructions [1]
 A program which helps user [1]

[2]

6 (a) (i) Graphic(al) User Interface [1] [1]

(ii) Two from:

Windows [1] a part of the screen where the user can see separate applications or several can be opened at once [1]

Icons [1] a picture or graphic or symbol which represents a program/file, e.g. My Documents or which is a shortcut to a program [1] or which opens program [1]

Pull down menu [1]/Description [1]

Menus [1] an onscreen list from which the user can choose an operation to be performed, e.g. pull down menu [1]

Mouse [1]/Description [1]

Pointers [1] a cursor which moves around the screen and allows users to point or select item [1] [4]

(b) Two from: Quality of the image on screen [1] based on the number of pixels [1] more pixels sharper image [1] [2]

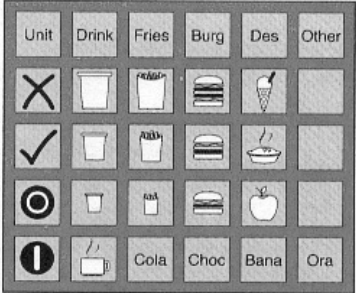


(c) Two from:
To allow the connection plug of peripheral devices (or name of device) [1] [1]

(d) Data/pictures can be read/uploaded/downloaded (directly) from a smartmedia [1]/memory card [1]/do not need to connect device/cables [1] [1]

(e) Three from:
Computer is switched on [1]
The program in ROM is run [1]/Boot up program is run [1]
System configuration check [1]/Memory check [1]/
Hardware/Peripheral check [1]/BIOS check [1]/
Operating system/Software is run [1] [3]

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Device	Device Name	Use
<p>(i)</p>  <p>© http://www.teach-ict.com</p>	<p>Concept Keyboard [1]</p>	<p>Select food item [1]</p> <p>Use finger to touch appropriate picture [1] or Supermarket/Fast food tills [1]/Drink dispensing machines [1]</p>
<p>(ii)</p>  <p>©iStockphoto/Thinkstock</p>	<p>Tracker pad [1]</p> <p>Touch pad [1]</p>	<p>Moves cursor/pointer/mouse (on screen) allows selection of icons (on screen)</p> <p>Tap pad with finger [1] or Laptop instead of mouse [1]</p>
<p>(iii)</p>  <p>©Hemera/Thinkstock</p>	<p>Joystick [1]</p>	<p>Use hand to manoeuvre the stick left/right each action representing data [1] or Playing games on computer/console [1] Navigating games [1] Selecting options [1]</p>

(b) A laser printer is a type of NON IMPACT [1] printer. It produces HIGH [1] quality printouts and uses TONER [1] to print onto paper. A DOT MATRIX [1] printer can produce carbon copies because the print head makes contact with the paper. [4]

8 (a) Two from:

- Webcam/digital camera/video camera [1]
- speakers [1]
- microphone [1]
- screen/projector/monitor [1]
- ADSL/fast Internet connection/ISDN/modem/router [1] [2]

(b) Two from:

- Body language/face to face/Pupils will be able to see/question the author directly [1] they may gain a better understanding from questioning the author directly [1] No need to travel to meet/No travel overheads [1] Meeting can be set up when it suits the author [1] Immediate response [1] [2]

(c) Could slow the network down [1]/statement about the negative impact on performance or bandwidth [1] [1]

5

9 (a) A database is a **structured** collection of information. [1]

Each entry about a person or item in a database is called a **record**. [1]

Data can be entered into a database using a **form**. [1] [3]

(b) More than one prize with the same name/Not unique [1]

(c) Yes/No, Boolean, True/False, Logical, Y/N [1]

(d)

Criteria	Tick (✓)
Year Group = 8 OR Attending = Yes	
Year Group < > 8 OR Attending = Yes	
Year Group = 8 AND Attending = Yes	✓
Year Group > = 8 OR Attending = Yes	

[1]

(e)

Formatting	Tick (✓)
The report is grouped according to Attending	
The report is grouped according to Year Group	✓
The report is sorted according to Prize Name	
The report is sorted according to Attending	
The report is sorted according to First Name	
The report is sorted according to Surname	✓

[2]

(f) Any **two** from:

Widen Column Headings [1]

Change alignment of headings/information [1]

Set page to landscape format [1]

Alignment/Add borders/Format references/Background colour/

Background graphic [1]

Change column width [1]

Change tick box to yes or no [1]

Header/Footer/Date/Page number [1]

Add image/logo [1]

[2]

(g) Comma Separated Variable

[1]

11

10 (a) Electronic Funds Transfer Point of Sale

[1]

(b) Any **two** from:

Printer [1], Screen/LCD/Monitor [1], Speaker/Buzzer [1]

[2]

(c) (i) Any **two** from:

Can use debit/credit cards/don't have to carry money [1]

Money is debited from account immediately [1]

Itemised receipt [1]

[2]

(ii) Any **two** from:

Initial capital outlay [1]

Problems if break down [1]

Cost of maintenance [1]/running costs [1]

Staff need training [1]

Delay of payment into shop owners account [1]

[2]

No marks for "expensive" without qualification

(d)

EFTPOS at a typical supermarket	Tick (✓)
The product barcode is used to search a database for the price of the item	✓
The product barcode contains details about the sell-by date of the item being purchased	
Barcodes use check digits to validate they have been entered correctly	✓
Barcodes contain a description of the product so it can be added to your itemised receipt	

[2]

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11 (a) Any **two** from:

Greater customer base [1]

Fewer/no overheads [1]

Less staff needed [1]

Business open 24 × 7 [1]

No premises [1]

[2]

(b) Any **one** from:

Worried about hackers/security [1]

Do not have internet access [1]

Not computer literate [1]

Worried about details being passed on [1]

Concerns about viruses [1]

May not have necessary equipment [1]

[1]

(c) Any **two** from:

PIN [1]

Video Camera surveillance [1]

Limit on PIN entry [1]

Maximum withdrawal limit [1]

Automated time out [1]

*represents PIN [1]

[2]

(d) Any **two** from:

Microchip has larger storage capacity [1]

Microchip can be edited [1]

Magnetic stripe more easily copied [1]

Magnetic stripe more easily damaged [1]

Magnetic stripe has smaller storage capacity [1]




Magnetic stripe cannot be edited [1]

[2]

7

12 (a)

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Media	Magnetic or Optical?
 <p>©iStockphoto/Thinkstock</p>	Magnetic
 <p>©iStockphoto/Thinkstock</p>	Optical [1]
 <p>©iStockphoto/Thinkstock</p>	Magnetic [1]

[2]

(b) 1. Main Memory [1]

2. Hard disc [1]

3. CD ROM [1]

[3]

			AVAILABLE MARKS
(c) (i)	A copy of data ensures against data loss [1]/ Data can be restored [1]/External Hard Drive [1]/ Zip Disc [1]/DVD [1]/Magnetic tape [1]/USB pen [1]/ CD (not CD Rom) [1]	[2]	
(ii)	Power removed, data lost	[1]	
(iii)	Any one from: Stores data (currently) being used [1]/Stores data not yet saved [1] Stores programs (currently) being used [1] Stores operating system [1]	[1]	
(iv)	Any one from: Temporary storage [1] Close to processor [1]/used to speed up processing [1] Holds most recently/frequently used items [1]	[1]	10
13 (a)	Any one from: Moisture/Humidity [1]	[1]	
(b)	Any one from: Signal from the sensor is analogue format [1] The computer only uses digital signals [1] Converts analogue to digital only [1] Converts data (to a format) so computer understands it [1]	[1]	
(c)	Any one from: Less chance of human error [1] (Not just “more accurate” or “less error”) Already in format for computer to process [1] Can record 24/7 [1] Can record data in dangerous situation [1] Without human intervention [1]	[1]	

(d)

Feedback in greenhouse system	Tick (✓)
Sensors record changes in temperature and humidity and if necessary the sensors turn on the heating or the sprinklers	
Sensors record changes in temperature and humidity and if necessary the user will turn on the heating or the sprinklers	
Sensors record changes in temperature and humidity and if necessary the interface will turn on the heating or the sprinklers	
Sensors record changes in temperature and humidity and if necessary the processor will turn on the heating or the sprinklers	✓

[1]

(e) Sensors sense cars at junction [1] and use data to change lights [1]
OR

button/switch pressed at junction by pedestrian [1] and lights changed [1]

[2]

(f) Any **two** from:

- control systems – data is processed straight away [1]
- data logging – data is stored and processed later [1]
- control systems the data is used to affect processing [1]
- data logging is the collection of data only [1]
- data logging systems cannot make decisions [1]
- data logging systems do not respond to changes [1]
- data logging systems do not receive feedback [1]
- control systems respond to change [1]
- control systems act on data or feedback [1]
- control systems control the actions of a system [1]

[2]

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- 14 (a)** Any **two** from:
 Virus protection
 Expensive peripherals can be shared [1]
 users can logon from any computer on the network [1]
 Centralised system management [1]
 Better security [1]
 Files can be backed up centrally [1]
 Communication between workstations/users [1]
 Software can be shared [1]
 Data can be shared [1] [2]
- (b)** Internet is the hardware/network used (to link into the WAN) [1]
 The WWW is the actual web pages/data/applications which travels on
 the Internet [1] [2]
- (c) (i)** Any **two** from:
 Large geographic area/small geographic area [1] linked
 together using copper/linked together using fibre optic [1]/
 telephone lines [1]
 Connections to LAN tend to be more permanent e.g. cables [1] [2]
- (ii)** Any **two** from:
 Telecommunications line/connection [1]
 Communication cables/leads (accept Internet cables) [1]
 Modem/ADSL modem/wireless modem/router [1] [1]
- (iii)** Communication Software/ISP Software [1]
- (d)** Any **one** from:
 Distributing daily messages to staff [1]
 Internal communication [1]/examples [1]
 Sharing resources with staff [1] [1]
- (e)** Any **one** from:
 Levels of access/only people with the appropriate level of access can
 access data/applications [1]
 User IDs [1]/Passwords [1]/Only those with the username/passwords
 can access data [1]
 Encrypt data [1] [1]

10

Definition	Term
A web address which when typed into the address bar of a browser will take the user to a website	URL
A document that can be edited and reused over and over again	TEMPLATE
The smallest element on a VDU that can be edited	PIXEL
Allows an area of the screen to be seen more closely	ZOOM
Data in a format known as binary, which consists of two digits 0 and 1	DIGITAL
An object which tracks the user's screen position	CURSOR
A spreadsheet cell reference that does not change when copied	ABSOLUTE
A button on a web browser which shows the web sites that have been visited	HISTORY
Using a database and word processor to create personalised documents	MAIL-MERGE
To convert a document into a format for use in another package	EXPORT

[10]

QWC

Total

AVAILABLE MARKS
10
7
140

The assessment of quality of written communication.

Marks to be allocated for QWC in one of two ways.

Where QWC is to be allocated across 2 marks, the following criteria must be used:

- [2] Accurate spelling and punctuation. Some specialist terms used.
- [1] Reasonably accurate spelling and punctuation. Limited range of specialist terms used.
- [0] Question not attempted.

Where QWC is to be allocated across 3 marks, the following criteria must be used:

- [3] Highly accurate spelling and punctuation. A good range of technical terms used.
- [2] Accurate spelling and punctuation. Some technical terms used.
- [1] Reasonably accurate spelling and punctuation. Limited range of technical terms used.
- [0] Question not attempted.