MARK SCHEME for the May/June 2010 question paper

for the guidance of teachers

0417 INFORMATION AND COMMUNICATION TECHNOLOGY

0417/13   Paper 13 (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 must be read in conjunction with the question papers and the report on the examination.

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Ques. No.	Answer				Part mark
1	A Multimedia Projector		B	Laser printer	1, 1
	C Dot Matrix Printer		D	Speakers	1, 1
2	(DVD ROM) Graph plotter Graphics tablet				1
	(Magnetic tape) Projector Trackerball				1

3		TRUE	FALSE	
	A command line interface is a user friendly method of communication with a computer.		✓	1
	A desktop computer is not easily carried around.	✓		1
	A joystick is an example of hardware.	✓		1
	Output devices are examples of software.		✓	1

4		Part mark
	Bar code reader → inputting code numbers from products at a POS terminal	1
	Microphone → inputting voiceovers into presentation software	1
	Mouse → selecting options from a list	1
	Numeric key pad → inputting a PIN at an ATM	1
	Optical mark reader → inputting data from a school register	1

5	(a)	**a WAN**	is a network connecting several LANs	1
	(b)	**a WLAN**	is a network with very little cabling	1
	(c)	**a router**	can allow networked computers to connect to the internet	1
	(d)	**bluetooth**	is used to connect two mobile devices to each other	1

6			
	It is easier to transfer data to other computers using optical media rather than fixed hard discs.	✓	1
	Optical media are cheaper to buy than magnetic media.	✓	1
	Optical media store more data than magnetic media.		
	Data is easier to encrypt on optical media.		
	Optical media provide quicker access to individual data items than magnetic tape.	✓	1
	CD ROMs are easier to update than magnetic media.		

7	**LEFT** *90* *REPEAT* **8** *FORWARD* **60** **RIGHT** 45 **END REPEAT** 1 mark for each correct statement	**5**

8			
	Sending emails		
	Text messaging	✓	1
	Sending a photograph as soon as it has been taken	✓	1
	Using the Internet		
	Making a phone call wherever you are	✓	1
	Leaving messages when somebody is not available		

9		TRUE	FALSE	
	Blogging		✓	1
	Booking a cinema ticket		✓	1
	Pharming	✓		1
	Phishing	✓		1

10 (a)	**Three** from: Pulse rate/heart rate Temperature Blood pressure Glucose level Rate of respiration Level of oxygen in the patient's blood		**3**
(b)	Sensors feed back/physical variables are analogue data Computers can only work with digital data/binary data		**1** **1**
(c)	<table><tr><td>Nurses always make mistakes.</td><td></td></tr><tr><td>Computers can monitor continuously without taking breaks.</td><td>✓</td></tr><tr><td>Computers can measure more than one variable at the same time.</td><td>✓</td></tr><tr><td>Computers can take readings more frequently.</td><td>✓</td></tr><tr><td>Nurses cannot take readings regularly.</td><td></td></tr><tr><td>Computers can analyse the results.</td><td></td></tr></table>		**1** **1** **1**
(d)	**Two** from: Printouts are continuous Need different colours for each variable High quality printout		**2**
(e)	**Two** from: (footprint) Space may be limited Easier to keep clean than other devices Surgeons – gloves which would make it more difficult to control other devices		**2**
11 (a)	B3		**1**
(b)	Any of A1:A5, A1:F1 or E7		**1**
(c)	=C4-B4		**1**
(d)	=D2*E2 or =E2*D2		**1**
(e)	Replication/copy and paste/fill down		**1**
(f)	6		**1**
(g)	=SUM(F2:F5) OR =F2+F3+F4+F5		**1**
(h)	F7		**1**
(i)	D2 F2 F7		**1** **1** **1**

12 (a)	**Two** from: Only one printer is needed Only one scanner is needed Data can be shared between computers/data can be accessed by one computer from another <u>more easily</u> Software can be shared All computers can access the internet <u>through one connection</u> Network games can be played		**2**
(b)	**Two** from: Viruses will be more easily spread All computers would now be susceptible to hackers If all computers are using the internet at the same time there will be speed issues		**2**

13 (a)			
	Firewall		
	Passwords	✓	**1**
	Biometrics	✓	**1**
	An intranet		

(b)			
	It makes it impossible to access computer systems.		
	Only authorised users can understand the data.	✓	**1**
	A key is needed to decrypt data.	✓	**1**
	It prevents viruses.		

14 (a)		True (✔)	False (✔)	
	Examining documents helps to identify the inputs and outputs.	✔		1
	A questionnaire makes the workers feel good.		✔	1
	An interviewer can ask questions based on the previous response.	✔		1
	Observing the current system helps to identify any problems with it.	✔		1

(b)			
	Field names	✔	1
	Screen layout		
	Field types	✔	1
	Key field	✔	1
	Field lengths	✔	1
	User needs		
	System specification		
	Input forms		

15 (a)	Direct changeover	1
(b)	Parallel running	1
(c)	Phased/Pilot running	1

16	**Two** strategies and **two** reasons from: User testing To ensure system meets the needs of the user *Other answers will depend on method of implementation – e.g.* *Phased implementation* (User) testing each module with normal/live data To see how system behaves in an ordinary day to day situation/system works as you would expect i.e. no error messages (User) testing each module with abnormal/extreme data To see how system reacts in unusual circumstances/to make sure error messages appear when data is abnormal *Direct changeover* (User) testing whole system To ensure the whole system works when all modules are combined *Parallel running* Analysis of user's results To compare the two systems/to ensure all processing/calculations is/are accurate	**2 + 2**
17	**Three** from: Modem/router to connect to the internet ISP to provide internet/email access Email software/internet browser to create/send/receive emails Password to access email account Email address(es) to send/receive emails	**3**
18		

The customer types in the PIN.	1	
If they are the same the customer is asked which service is required.	3	1
The customer's account is checked to see if it has sufficient funds.	6/7	1
The amount is checked against the card limit.	7/6	1
The PIN number is compared with the PIN stored in the chip.	2	1
The customer selects required service (cash).	4	1
If there are sufficient funds and the amount is within the card limit the required notes are issued.	8	1
The customer is asked how much money they want to withdraw.	5	1

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19	**Three** from: Some situations are/real thing might be dangerous/it (model) is less dangerous Saves expensive mistakes in the construction real thing/cost of rebuilding/repairing is expensive Real thing may waste raw materials/natural resources It may take a long time to obtain results from the real thing Easier to modify Extremes which can't be tested in real life can be tested using models	3
20	**Three** from: Check the last part of the URL (for example .gov, .ac, .ed, .sch should be reliable/ .org, .co, .com less reliable). See if responsible bodies have endorsed the site e.g. NGFL Check the date of the last update Are any advertisements present Are there links to and from the website to and from well known reliable websites? Checking the author's credentials	3
21 (a)	**Two** from: Usually single author readers can add comments but not edit blog Reverse chronological structure Usually personal External links	2
(b)	**Two** from: Usually many authors Structure determined by content and users Usually objective Internal and external links Contributors can edit entries	2