INFORMATION AND COMMUNICATION TECHNOLOGY   **0417/12**

Paper 1 Written   **October/November 2017**

MARK SCHEME

Maximum Mark: 100

Published

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.

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This document consists of **9** printed pages.

Question	Answer				Marks
1		**LAN (✓)**	**WAN (✓)**	**WLAN (✓)**	**4**
	The internet is an example of this type of network		✓		
	A wired network found within a single building	✓			
	This network uses wireless technology			✓	
	This network is spread over a large geographical area		✓		

Question	Answer	Marks
2(a)	a 3D printer	**1**
2(b)	artificial intelligence	**1**
2(c)	a robot	**1**
2(d)	biometrics	**1**

Question	Answer		Marks
3(a)		**Device**	**3**
	Data from the starting pistol is read by this device	Sound sensor	
	This device detects that the athlete has left the starting block	Pressure sensor	
	When the light beam is broken the data is read by this device	Infra-red sensor	
3(b)	*Digital camera photograph* – use a USB connection/insert the memory card/use a memory card reader/download the photograph from the cloud/use bluetooth connection/use wifi connection/connect a cable *Printed photograph* – scan the image/use a scanner/photograph the image using a digital camera		**2**

Question	Answer	Marks
4(a)	 1 mark writing practical/theory or classwork/homework in level 1 1 mark for writing practical/theory or classwork/homework in level 2 or 1 mark for three correct boxes, for example 1, 2 and 2	2
4(b)	**For example:** ICT\Theory\Classwork\input_devices.rtf Must be follow through from part (a)	1
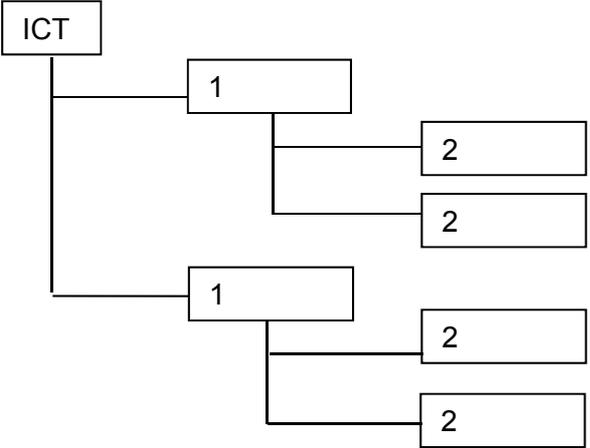
Question	Answer	Marks
5(a)	Any **two** from: Request made by entering a web address/URL or clicking on a link Retrieves code from the server/resources downloaded Interprets the code as a web page/uses page resources to build page The web page is displayed/renders page to view	2
5(b)	Any **six** from: An intranet has restricted access/private network therefore public cannot gain access/the internet is public access The intranet is protected by passwords/More chances of hacking on the internet The intranet has reduced unauthorised access to material The material may be sensitive on the intranet Intranet only used in the organisation/internet is world wide An intranet will only contain relevant information for the company The company has more control of data on an intranet An intranet is policed or managed/the internet has no rules The data on an intranet is moderated/the internet is not moderated	6

Question	Answer	Marks
6	<table><tr><th>Image</th><th>Safety issues</th><th>Minimise the risk</th></tr><tr><td></td><td>Tripping over trailing wires/cables</td><td>Any **one** from: Use covered cable runs Tie cables to wall Cover cables with carpet Use wireless Organise wires</td></tr><tr><td></td><td>Electrocution from spilling drinks</td><td>Any **one** from: Do not take drinks/food into computer room Keyboard covers</td></tr><tr><td></td><td>Fire from overloaded sockets</td><td>Any **one** from: One plug per socket/reduce the load on the socket Use of RCB</td></tr><tr><td></td><td>Fire from overheating</td><td>Any **one** from: Use of CO_2 fire extinguishers Fans and cooling from open windows/good ventilation</td></tr></table>	8

Question	Answer	Marks
7	**Four** from: Be vigilant of others attempting to gain access to your data Use up to date internet security software… …antivirus, anti-spyware, firewall Avoid giving out personal data (**not name**) e.g. password, home address, email, age, (mobile)phone number Be aware of addiction e.g. playing for too long Be aware of hidden costs… …read terms and conditions Play authorised games that have a licence/trusted sites Choose a user name that does not contain personal information Use strong passwords Keep the game up to date Do not use identifiable images	4

Question	Answer	Marks
8	Any **four** from: Use of corporate/same colours Same font Same style of font Margins and white space look similar therefore showing it is part of the same company Graphics are similar Logos are the same Language used is the same on all documents within the group Position of the images are the same Blackline at the top with contact details Same type of icon Icons in same place on a white background Use of branding	4

Question	Answer	Marks
9(a)(i)	Any **two** from: Regularly updated Website or web page Run by an individual or small group/owner can only edit it Written in an informal or conversational style Online journal/diary/personal opinions	2
9(a)(ii)	Any **two** from: A website or database Collaboration by a community of users/members of a group Allowing any member to add and edit content.	2
9(a)(iii)	Any **two** from: Voice Over Internet Protocol Method for the delivery of voice communications over Internet /Internet Protocol/ IP networks Examples: IP/internet/broadband telephone/broadband phone service.	2

9(b)		Phishing (✓)	Pharming (✓)	Smishing (✓)	Marks
	The sending of fraudulent emails appearing to come from legitimate companies in order to steal passwords	✓			4
	Redirecting users to a bogus website that looks authentic		✓		
	Security attack where user is tricked into downloading a virus on to a cell phone			✓	
	As the user types details they are stored by the criminal		✓		

Question	Answer	Marks
10(a)	Any **three** from: **VLOOKUP** looks at the value in A9 **A9** is the lookup value **$A$4:$B$6** – this is the lookup range **2** is the index value or any **three** from: It looks up value of A9 In the range $A$4:$B$6 And retrieves the <u>corresponding</u> value In the second column of the range	**3**
10(b)	5%/0.05	**1**
10(c)	For example (($E$3*C9)*D9) or 500*C9*D9 1 mark for $E$3 1 mark for *C9 1 mark for *D9	**3**
10(d)	Absolute referencing 1 mark Any **two** from: If the formula is dragged down the column/replicated Then the cell reference (associated with the $) does not change So the user does not need to type in each formula separately	**3**
10(e)	**Three** from: **Either** Highlight cells D9 / E9 / D9 and E9 Right click and copy Highlight cells D10 to D16/ E10 to E16 Right click and paste formulas Check values are correct **Or** Highlight cells D9 / E9 / D9 and E9 Move to bottom right of cell D9/E9 Click the black square/drag handle… …Drag down to row 16 Check values are correct **Or** Highlight cells D9 / E9 / D9 and E9 Fill down... ...to cell D16/E16 Check values are correct **Or** Highlight cells D9 / E9 / D9 and E9 Move to bottom right of cell D9/E9 Double click/click F4 on the keyboard the black square/drag handle Check values are correct	**3**

Question	Answer	Marks
11(a)	**Four** from: The programmer will not be familiar with the workings of the theatre/to understand the requirements of the system The solution may be easy for the programmer to use but not the users/make it user friendly The theatre manager is paying the programmer The theatre manager may want enhancements that the programmer has not thought of The progress of the solution needs to be checked with the theatre manager …in case the he/she changes his mind The budget needs to be discussed (as it may involve purchasing new hardware/software) The timescale needs to be discussed	**4**
11(b)	Any **four** from: Speeds up the booking process Customers may not have to travel to the theatre so save money in travelling Customers may not have to travel to the theatre so save time in travelling/queuing Postage costs could be reduced Can make/cancel/change a booking at any time Can book several shows at same time Booking can be carried out anywhere	**4**

Question	Answer	Marks
12	Any **three** from: The card may be read accidently Only small amounts can be withdrawn More chance of fraud if card is stolen/lost May not be able to use the ATM as not everyone will be contactless due to cost Devices can read the cards wirelessly to steal money	**3**

Question	Answer	Marks
13(a)	Any **three** from: Observation of the users Interviewing the manager Questionnaires given out to users Examination of existing documents	**3**
13(b)	Any **three** from: Text Static images Moving images/animation/video Sound	**3**

Question	Answer	Marks
14(a)	**Five** from: The data from the sensor is compared to the pre-set value The pre-set value is set to show the minimum distance of the worker If the values are the same/lower… …the microprocessor sends a signal… …to the actuator to stop the motor/robot The microprocessor starts a timer After a short while the microprocessor restarts the robot The microprocessor stops the timer If the values are different/higher …the microprocessor does nothing/robot keeps moving The process is continuous	**5**
14(b)	Any **three** advantages: Overall wage bill is reduced as there are fewer workers Productivity is higher/the robot can work all day long therefore is more efficient It has a set path/route to follow which means that staff know when it is due GPS can be used to show where it is in the building Less expensive in the long run/doesn't get paid Less mistakes are made/more accurate Allow humans to do more <u>skilled</u> work Greater consistency Work 24/7/without breaks Any **three** disadvantages: The cost of buying/set up robot is expensive It can only carry out one task Stairs can be a problem Payload size can be an issue Expensive to maintain (only if Less expensive in the long run has not been given) Replace labour, leads to increased redundancy payments Maximum 4 marks.	**4**

Question	Answer	Marks
15	Any **three** from: A window plus reasonable example An icon/buttons/tabs plus reasonable example A menu/drop down menu plus reasonable example Pointer (to point to items on the menu) plus reasonable example	**3**

Question	Answer	Marks
16	To be marked as a level of response: Level 3 (7–8 marks): Candidates will give **reasoned** advantages **and** disadvantages. The issues raised will be justified. There will be a reasoned conclusion. The information will be relevant, clear, organised and presented in a structured and coherent format. Level 2 (4–6 marks): Candidates will give both advantages **and** disadvantages. The issues raised **may** be justified. There **may** be a conclusion. For the most part the information will be relevant and presented in a structured and coherent format. Level 1 (1–3 marks): Candidates may only give **either** advantages **or** disadvantages. Candidate might not give reasons. Answers may be simplistic with little or no relevance Level 0 (0 marks) Response with no valid content **The following are examples only:** Due to laptops/tablets/smart phones banking can take place on the move therefore there is no need to go to a bank Fewer banks are available to customers Non IT literate user/ users without equipment will have less access to banking Need to purchase a computer Need internet/broadband connection There is a chance of bank fraud due to devices being used There is little physical money Physical money cannot be withdrawn or deposited Could mismanage account/make a mistake by pressing wrong button Requires stable internet connection, to ensure is doesn't disconnect midway through a transaction Available 24/7 Available anywhere your computer can get an internet connection Saves customers money by not having to travel to the branch Saves customers time by not having to travel to the bank or stand in queues.	8