INFORMATION AND COMUNICATION TECHNOLOGY   **0417/13**

Paper 1 Written   **October/November 2018**

MARK SCHEME

Maximum Mark: 100

Published

This document consists of **10** printed pages.

Generic Marking Principles

These general marking principles must be applied by all examiners when marking candidate answers. They should be applied alongside the specific content of the mark scheme or generic level descriptors for a question. Each question paper and mark scheme will also comply with these marking principles.

GENERIC MARKING PRINCIPLE 1:

Marks must be awarded in line with:

   the specific content of the mark scheme or the generic level descriptors for the question
   the specific skills defined in the mark scheme or in the generic level descriptors for the question
   the standard of response required by a candidate as exemplified by the standardisation scripts.

GENERIC MARKING PRINCIPLE 2:

Marks awarded are always **whole marks** (not half marks, or other fractions).

GENERIC MARKING PRINCIPLE 3:

Marks must be awarded **positively**:

   marks are awarded for correct/valid answers, as defined in the mark scheme. However, credit is given for valid answers which go beyond the scope of the syllabus and mark scheme, referring to your Team Leader as appropriate
   marks are awarded when candidates clearly demonstrate what they know and can do
   marks are not deducted for errors
   marks are not deducted for omissions
   answers should only be judged on the quality of spelling, punctuation and grammar when these features are specifically assessed by the question as indicated by the mark scheme. The meaning, however, should be unambiguous.

GENERIC MARKING PRINCIPLE 4:

Rules must be applied consistently e.g. in situations where candidates have not followed instructions or in the application of generic level descriptors.

GENERIC MARKING PRINCIPLE 5:

Marks should be awarded using the full range of marks defined in the mark scheme for the question (however; the use of the full mark range may be limited according to the quality of the candidate responses seen).

GENERIC MARKING PRINCIPLE 6:

Marks awarded are based solely on the requirements as defined in the mark scheme. Marks should not be awarded with grade thresholds or grade descriptors in mind.

Question	Answer	Marks
1(a)	CPU	**1**
1(b)	hardware	**1**
1(c)	RAM	**1**
1(d)	touch screen	**1**

Question	Answer				Marks
2		Hub (✓)	Switch (✓)	Router (✓)	**4**
	Connects a LAN to a WAN			✓	
	Broadcasts data to all connected devices	✓			
	Connects two LANs			✓	
	Selects which device to send data to		✓		

Question	Answer		Marks
3		**Tick (✓)**	3
	Re-reading the document		
	Performing a length check on the data	✓	
	Re-entering the data		
	Performing a character check on the data	✓	
	Performing a grammar check on the document		
	Checking for spelling		
	Checking the data is reasonable and sensible	✓	
	Checking the data is 100% correct		

Question	Answer	Marks
4(a)	**Two** from: Keyboard/keypad for entering data Chip reader PIN pad Magnetic stripe reader Bar code scanner Scales/pressure sensor Touch screen Light sensor	2
4(b)	**Two** from: Customer display/touchscreen Printer for receipts Loud speaker	2
4(c)	**Three** from: The items could have been damaged and removed from the shelf The items could have been stolen The items could have been picked up, but they have not yet passed through the till The staff/customers placing the items on the shelves may have put them in the wrong place. The quantity of items on the database may not have been recorded properly Database may not have been updated	3

Question	Answer	Marks
5(a)	**Three** from: Questionnaires can be given to users/employees Checking documents from the current system Observation of staff/users	3
5(b)	**Three** from: The full/first and second/family name of the customer The contact address of the customer The gender of the customer The date of birth	3
5(c)	**Four** from: Appropriate font styles to help the user to read the form by a clearer font Appropriate/larger font sizes to help the user read the form Appropriate spacing between fields to help with the readability of the form Larger character spacing of individual fields to help fill the form in More use of white space to help readability Larger dropdown menus/radio buttons to give options to enter Larger forward/backward/submit buttons to help navigate Darker writing on a light background/lighter writing on a dark background	4
5(d)	Direct changeover Parallel implementation Phased implementation	3

Question	Answer	Marks
6(a)	**Two** from: Selected the image Rotate 90 degrees Turn anti-clockwise about the origin	2
6(b)	**Four** from: Click on the insert button Select the image on the internet and save Select the image and copy Select the position in the document Paste into the document Select the image from the saved folder Select wrap text Move to final position Save the document Resize the image Remove the hyperlink	4

Question	Answer	Marks
7(a)	**Two** from: It helps to prevent the unauthorised copying of the software It helps to prevent the unauthorised lending/renting of the software It gives the author legal protection	**2**
7(b)	**Four** from: A license agreement between the user and the software developer A unique licence key is used when the software is installed Software only runs if DVD/CD/Pen Drive is present Use of a dongle/card plugged into the computer Holographic sticker which cannot be photocopied shows the product is real Software built into the program to stop it being copied	**4**

Question	Answer	Marks
8	Max **four** from: Digital cameras could be placed in drones They can be hidden in ATMs Digital cameras can be used in special glasses Digital cameras are used in CCTV/Security cameras Digital cameras are in people's mobile phones Max **five** from: They can be used to film people without them knowing/without permission The photographs/images can be used for blackmail They can be used to film people covertly Digital cameras can be hacked and used to spy on the users Filming vacation activities without permission/filming a car accident They can be used to photograph houses without the owners knowing They can be used to capture PINs	**6**

Question	Answer	Marks
9(a)	**Four** from: Video-conferencing is the use of telecommunication technologies It uses an internet connection It allows people in two or more locations to communicate Allows long distance communication Using simultaneous two-way communication Uses video and audio transmissions/streaming	**4**
9(b)	**Four** from: Video conferencing equipment can be expensive to buy The communication link could be expensive to set up and operate/satellite/internet link needed Lip sync/lagging can be an issue If the hardware breaks down the conference fails // poor connection conference fails Time zones as the games are in Australia and company is based in London Needs organising as to who's turn it is next // not talk at the same time Any sound in the conference can be picked up by microphones Open microphones can distort the sound	**4**

Question	Answer	Marks
10(a)	Bar chart/graph	**1**
10(b)	**Five** from: Select A2 to B12 Click CTRL Select D2 to D12 // Select F2 to F12 Click insert…chart Select bar graph/chart Add title/axes Add legend	**5**

Question	Answer	Marks
11(a)	**Three** from: Biometrics e.g. iris scan, face scan, retina scan Physical Tokens/TAN Two-factor/two-step/multi-factor authentication Magnetic stripes ID cards Memorable information // security question	**3**

Question	Answer	Marks
11(b)	**Four** from: Data must be processed fairly and lawfully Data must be used for the purpose it was collected for Data must be adequate and relevant to the purpose it was collected for Data must be kept up to date and accurate Data must not be kept longer than necessary Data must be processed within the rights of data subjects Data must not be moved to any other country that is not protected by a data protection act Must allow access to data	**4**

Question	Answer	Marks
12	**Three** from: Commands have to be learnt Commands have to be typed in which takes time The operator has to have specialist knowledge of the system Help facilities are basic Commands have to be precise	**3**

Question	Answer	Marks
13(a)	1 mark for each explanation 1 mark for the subsequent data example Normal data: Data that is within the range/boundaries/Acceptable data Examples: between R$2 and R$10 Abnormal data: Data outside the range/boundaries/unacceptable data/invalid data Values less than R$2 or larger than R$10 or text. Extreme data: Data on the boundaries of acceptable data Examples R$2, R$4, R$10	**6**
13(b)	Data that has been used in an existing system Data where the results are known	**2**

Question	Answer	Marks
14(a)	A piece of software/malware Has the ability to replicate itself Max **two** from: It corrupts data in the computer Deletes data in the computer Fills up memory Slows the operation of the computer	**3**

Question	Answer	Marks
14(b)	**Two** from: Records every keystroke on the keyboard Saves it in a log file Transmits the log file back to the hackers Can read a password being typed in The person is unaware it is happening	**2**

Question	Answer	Marks
15(a)	**Six** from: If site has excessive advertising it could be unreliable If the advertising is related only to its own products it could be unreliable The final part of a URL can help to identify reliability Examples .ac…, .gov, .org, .edu government // academic sites are usually fairly reliable Can compare information from other websites to see if it is reliable If site is endorsed by reliable/reputable people/organisations it could be accepted as being reliable // If it has links to other reliable sites/ sites which have testimonials it is usually reliable // If it has testimonials that can be confirmed it is likely to be reliable If the author's credentials are good, it is likely to be reliable If information is comparable to information from reliable/authenticated text books it is likely to be reliable If the date of the last update was a long time ago it is likely to be unreliable Sites which have grammatical/spelling mistakes are likely to be unreliable Compare information from text books/experts to see if the results are similar If it has been recommended by teachers, it is likely to be reliable If there is a contact page with a real postal address that can be confirmed then it is likely to be reliable URL contains https/padlock	**6**

Question	Answer	Marks
15(b)	To be marked as a level of response: Level 3 (7–8 marks): Complete level 2 To gain 7 marks there needs to be a justification of points made To gain 8 marks there must be a reasoned conclusion Level 2 (4–6 marks): Complete level 1 Award a mark for benefits and drawbacks or expansions. To achieve 4 marks there must be at least one benefit <u>and</u> drawback. Level 1 (1–3 marks): Award a mark for benefits <u>or</u> drawbacks to a maximum of 3 marks Level 0 (0 marks): No relevant response given For example: **Benefits** Using a search engine means that the data can be found quicker Internet has vast amounts/wide range of information Data tends to be up to date Students can research from home/on the move/anywhere Information is in digital form therefore easier to send/use in documents **Drawbacks** The internet is not regulated Danger of accessing inappropriate websites Can take a lot of time to find relevant information Need to have internet connectivity Searching techniques needed Copyright information could be plagiarised Data found on websites may be false Data found may be biased Viruses and malware could be uploaded Danger of students using the internet for other things not research	8